NETS
NETS

GENERAL NOTES:

1. THE VESSEL SHALL BE CLASSIFIED UNDER ABS MALTESE CROSS A1, CIRCLE E, UNRESTRICTED SERVICE AND ICE CLASS C0.
2. ALL MATERIAL SHALL BE ORDINARY STRENGTH STEEL, ABS GRADE A, UNLESS OTHERWISE NOTED.
3. DEEP TANK OVERFLOW HEIGHTS ARE ASSUMED AT THREE FEET ABOVE THE WEATHER DECK ABOVE THE TANK.
4. WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NOAA "STATEMENT OF REQUIREMENTS" AND ACCEPTABLE COMMERCIAL MARINE QUALITY.
5. ALL WELDING SHALL BE IN ACCORDANCE WITH REFERENCE NO. 2.
6. END CONNECTION DETAILS SHALL BE IN ACCORDANCE WITH HMI STANDARDS, REFERENCE NO. 6.
7. STIFFENER & GIRDER END CONNECTIONS SHALL BE DESIGNATED AS FOLLOWS:
   "EC-S": CUT MEMBER ONE INCH SHORT
   "EC-W": WEB IS CONNECTED
   "EC-F": FULL CONNECTION – WEB AND FLANGE STRENGTH MAINTAINED.
   "EC-A": EFFECTIVE BRACKET PER ABS RULES, PART 3, SECTION 2.5.3
8. UNLESS OTHERWISE NOTED, ALL END CONNECTIONS SHALL BE "EC-F".
9. COPES, SNIPES AND DRAINS SHALL BE IN ACCORDANCE WITH HMI STANDARDS.
10. PLATES AND SHAPES ARE IN IMPERIAL UNITS. DIMENSIONS ARE IN MILLIMETERS.
11. FRAME SPACING = 600
12. THE DECK-TO-SHELL CONNECTION ON THE EXPOSED MAIN DECK SHALL BE ROUNDED WITH A 150 RADIUS.
13. GIRDERS SHALL BE FITTED WITH TRIPPING BRACKETS AT 3000 OR MAX. OF 5 FRAME SPACINGS.
14. OIL & WATER STOPS MUST BE PROVIDED AT THE ENDS OF TANK BOUNDARY PLATING & IN CONTINUOUS FRAMING EXTENDING THROUGH TANK BOUNDARIES. FOR ADJACENT TANKS, STOPS MUST PROVIDED ON BOTH SIDES OF THEIR COMMON BOUNDARIES.
15. THE CORNER RADIUS OF OPENINGS IN DECKS & SHELL, MUST BE GENERALLY 1/8 THE TRANSVERSE DIMENSION OF THE OPENING, WITH A MINIMUM OF 150 & A MAXIMUM OF 600. ON MAIN TRANSVERSE BULKHEADS, THE RADIUS MUST BE 1/20 OF THE VERTICAL WITH A MINIMUM OF 150.
16. FOR POSITIONS & DETAILS OF DOORS, HATCHES, MANHOLES & SCUTTLES SEE REF #15
17. SURFACE TOLERANCES FOR THE GENERATOR FOUNDATION (PLAN 51-C & PLAN 69-A) IS 1.0.

AS-BUILT

FUME-TIGHT (FT) BULKHEAD DETAILS

LOCATION	ORIENTATION	STIFFENER SPACING (mm)	PLATE THICKNESS (in)	STIFFENER TYPE	END CONN. TOP	END CONN. BOTTOM
TANK TOP	TRANSVERSE	625	1/4	L4x3x1/4	S	S
TANK TOP	LONG'L	600	1/4	L4x3x1/4	S	S
2ND DECK	TRANSVERSE	625	1/4	L3x2x1/4	S	S
2ND DECK	LONG'L	600	1/4	L3x2x1/4	S	S
MAIN DECK	TRANSVERSE	625	1/4	L3x2x1/4	S	S
MAIN DECK	LONG'L	600	1/4	L3x2x1/4	S	S

REVISIONS

REV	ZONE	DESCRIPTION	DATE	APPROVED
3 CONT'D		4. SHT 2, PLAN 10-C: ADDED ELEV. 22-B CALL-OUT TO LONG'L BHD. 5. SHT 3, SECT. 24-C: REVISED BHD TO SUIT NEW DOOR SIZE AND LOCATION. ADDED ELEV. 22-B FOR LOG'L BHD 980 OCL (S). ITEMS 1-3 PER ENG. DEVELOPMENT. ITEMS 4 & 5 PER PRN 002 DTD. 1/31/05.		
4		1. SH 1, EXTENDED HULL APPLICABILITY TO INCLUDE HULL 1957. 2. SH 1, ADDED SH 8 TO DRAWING INDEX. 3. SH 2, ELEVATION 10-C, CHANGED PLATE THICKNESS TO 1". 4. SH 2, ELEVATION 10-C, ADDED NOTE FOR APPLICABILITY. 5. SH 3, ELEVATION 21-B, ADDED NOTE FOR APPLICABILITY. 6. SH 3, ELEVATION 22-B, ADDED NOTE FOR APPLICABILITY. 7. SH 4, SECTION 27-C, ADDED NOTE FOR APPLICABILITY. 8. SH 5, SECTION 39-A, ADDED NOTE FOR APPLICABILITY. 9. SH 7, ELEVATION 54-A, ADDED NOTE FOR APPLICABILITY. 10. SH 8, ADDED TO SHOW SCANTLINGS SPECIFIC TO HULL 1956. ITEMS 1 THRU 3 PER ENGINEERING DEVELOPMENT ITEMS 4 THRU 10 PER ECP 056B.	7/18/06 MDP	7/24/06 SM
5		1. SH 1, THIS REVISION REFLECTS AS-BUILT CONDITIONS FOR HULL 1953. 2. SH 1, ADDED SH 9 TO DRAWING INDEX AND REVISION STATUS. 3. SH 1, ADDED GENERAL NOTE #17 SPECIFYING SURFACE TOLERANCES FOR GENERATOR FOUNDATION. 4. SH 7, PLAN 51-C, ADDED NOTE REGARDING APPLICABILITY. 5. SH 7, PLAN 51-C, ADDED STRUCTURE TO M282 GENERATOR FDN TO MATCH AS-BUILT CONDITION. ITEMS 1 THRU 5 PER ENGINEERING DEVELOPMENT	8/22/06 MDP	9/6/06 MDP

REVISIONS CONT'D ON SH 1A

REVISIONS

REV	ZONE	DESCRIPTION	DATE	APPROVED
1		1. SH 3, ELEV. 20-C: REVISED LONG'L GIRDER TRANSITION BKT FROM STRAIGHT TO RADIUS CUT TO CLEAR HPU MOTOR PULL SPACE. 2. SH 5, SECT. 36-4: DELETED 1/4 PL BKTS (NS) W/4x3/8 RIDER PLATES AND REINSTATED L4x3x1/4 TO SUIT REMOVAL OF BUILT-IN WINCH FOUNDATION. 3. SH 5, SECT. 36-C: DELETED 3/8 PL TAB LOCATED IWO CL ABOVE 4500 FLAT FOR BUILT-IN WINCH FDN. PLATE REMOVED TO SUIT REMOVAL OF SAID WINCH FDN. 4. SH 5, SECT. 34-B: DELETED BUILT-UP FLOOR STRUCTURAL ASSY ABOVE 4500 ABL TO SUIT REMOVAL OF BUILT-IN WINCH FDN. 5. SH 5, SECT. 34-D: DELETED 1/4 PL BKTS (NS/FS) W/4x3/8 RIDER PLATES AND REINSTATED L4x3x1/4 TO SUIT REMOVAL OF BUILT-IN WINCH FDN. 6. SH 7, ELEV. 54-A: DELETED BUILT-UP FLOOR STRUCTURAL ASSY ABOVE 4500 ABL TO SUIT REMOVAL OF BUILT-IN WINCH FDN. 7. SH 7, PLAN 55-C: DELETED RAISED PLATFORM USED AS PART OF WINCH FDN. 8. SH 2, PLAN 14-C: REVISED DIMENSIONS TO LONG'L DECK GIRDER BELOW STBD CRANE PEDESTAL FROM 5000 TO 5290 AND FROM 625 TO 570 TO SUIT RELOCATION OF STBD CRANE PEDESTAL. 9. SH 2, PLAN 10-C: RELOCATED STBD CRANE PEDESTAL FROM 5400 TO 5700 OCL AND REVISED DK STRUCTURE AS FOLLOWS; REDUCED SIZE OF 3/4" INSERT PL FROM 5000 x 2700 TO 3400 x 2700, DELETED TWO OUTBD. RADIAL GIRDERS AND REVISED DK OVERHANG STIFFENERS TO SUIT, REVISED TRSV. GIRDERS AT FRS. 78 AND 79 TO STOP AT LONG'L BHD 6300 OCL, DELETED 19 1/2 x 1/4 COAMING AT FRS 78 & 79, AND CHANGED END CONNECTION "EC-W" EXTENTS FROM FR. 69 – 77 TO FR. 69 – AFT FOR THE DK OVERHANG STIFFENERS. MODIFIED WEATHER-TIGHT BHD, 6300 OCL, WITH A KNUCKLE ADDED AT FRAME 81. 10. SH 3, ELEV. 20-C: REVISED LOCATION OF LONG'L GIRDERS FROM 5000 AND 5625 TO 5290 AND 5860 OCL, RESPECTIVELY. 11. SH 3, ELEV. 23-A: REVISED BHD TO SUIT RELOCATION OF CRANE PEDESTAL WITH THE FOLLOWING CHANGES; DELETED PORTLIGHT AT FR. 78, RELOCATED DOOR TO FR. 77, DELETED 1/2" PLATE INSERT, RELOCATED FREEING PORT FROM FR. 76 1/2 TO FR. 78 1/2, MODIFIED BHD STIFFENERS TO SUIT RELOCATION OF CUTOUTS, DELETED L8x4x5/16 FROM BHD, ADDED A KNUCKLE AT FR. 81 TO ALLOW THE BHD TO PERPENDICULARLY INTERSECT THE CRANE PEDESTAL. 12. SH 5, SECT. 34-A: RELOCATED STBD GIRDERS TO SUIT CRANE PEDESTAL RELOCATION. 13. SH 6, SECT. 42-A: RELOCATED STBD CRANE PEDESTAL FROM 5400 TO 5700 OCL AND SHIFTED DECK GIRDERS TO SUIT. REVISED BHD TO SUIT PEDESTAL RELOCATION WITH THE FOLLOWING CHANGES; EXTENDED HEADERS IWO BHD CUTOUT, EXTENDED BHD STIFFENERS TO MN DK THAT WERE IN LINE OF THE LONG'L DK GIRDERS, ADDED TWO NEW BHD STIFFENERS TO SUIT RELOCATED DECK GIRDERS. 14. SH 3, ELEV. 24-B: CHANGED 1/2" INSERT PL TO 5/16" THK. 15. SH 2, PLAN 10-C: ADDED 5/16" INSERT PL IWO NET REEL FOUNDATION, P/S. ITEM 1 PER PRN #001, DTD 1/28/04. ITEMS 2 THRU 7 PER REWORK #741-0004 ITEMS 8 THRU 15 PER ENGINEERING DEVELOPMENT	1/28/04 AGE 2/26/04 AGE 3/22/04 AGE 3/30/04 AGE	4/5/04 RG
2		1. SH 2, PLAN 14-C: REVISED DIMENSIONS TO LONG'L DECK GIRDER BELOW STBD CRANE PEDESTAL FROM 5290 TO 5000 AND FROM 570 TO 625 TO SUIT RELOCATION OF STBD CRANE PEDESTAL. 2. SH 2, PLAN 10-C: RELOCATED STBD CRANE PEDESTAL FROM 5700 TO 5400 OCL AND REVISED DK STRUCTURE AS FOLLOWS; INCREASED SIZE OF 3/4" INSERT PL FROM 3400 x 2700 TO 5000 x 2700, ADDED TWO OUTBD. RADIAL GIRDERS AND REVISED DK OVERHANG STIFFENERS TO SUIT, REVISED TRSV. GIRDERS AT FRS. 78 AND 79 TO EXTEND TO OUTBOARD OVERHANG, ADDED 19 1/2 x 1/4 COAMING AT FRS 78 & 79, AND CHANGED END CONNECTION "EC-W" EXTENTS FROM FR. 69 – AFT TO FR. 69 – 77 FOR THE DK OVERHANG STIFFENERS. DELETED KNUCKLE AT FR. 81 IN WEATHER-TIGHT LONGITUDINAL BULKHEAD, 6300 OCL, FOR CRANE PEDESTAL. 3. SH 3, ELEV. 20-C: REVISED LOCATION OF LONG'L GIRDERS FROM 5290 AND 5860 TO 5000 AND 5625 OCL, RESPECTIVELY. 4. SH 3, ELEV. 23-A: REVISED BHD TO SUIT RELOCATION OF CRANE PEDESTAL WITH THE FOLLOWING CHANGES; REINSTATED PORTLIGHT AT FR. 78, RELOCATED DOOR TO FR. 80, ADDED 1/2" PLATE INSERT, RELOCATED FREEING PORT FROM FR. 78 1/2 TO FR. 76 1/2, MODIFIED BHD STIFFENERS TO SUIT RELOCATION OF CUTOUTS, ADDED L6x4x5/16 TO BHD. DELETED KNUCKLE AT FR 81. 5. SH 5, SECT. 34-A: RELOCATED STBD GIRDERS TO SUIT CRANE PEDESTAL RELOCATION. 6. SH 6, SECT. 42-A: RELOCATED STBD CRANE PEDESTAL FROM 5700 TO 5400 OCL AND SHIFTED DECK GIRDERS TO SUIT. REVISED BHD TO SUIT PEDESTAL RELOCATION WITH THE FOLLOWING CHANGES; SHORTENED HEADERS IWO BHD CUTOUT, SHORTENED BHD STIFFENERS IWO THE LONG'L DK GIRDERS. DELETED BULKHEAD STIFFENERS THAT WERE ADDED IN REV. 1. 7. SH 7, ELEV. 24-B: REVERT 5/16" PL INSERT TO 1/2" TO SUIT ORIGINAL CONFIGURATION. ITEMS 1 THRU 7 PER PROGRAM MANAGER.	8/10/04 RMW	8/11/04 RG
3		1. EXTENDED HULL APPLICABILITY TO INCLUDE HULL 1956. 2. SHT 3, ELEV. 23-B & 21-C: SPECIFIED PIPE STUB TO BE SHIPYARD SUPPLIED. 3. SHT 5, SECT. 34-B REVISED CALLOUT TO INCLUDE FR 74 TO BE FITTED W/ FB IWO LH. (CONT'D ZONE 4-D)	3/21/05 RMW	3/30/05 RG

DOCUMENT DISTRIBUTION RECORD

DATE IN ROOM	12/23/03	4/5/04	8/12/04	3/29/05	7/18/06	8/22/06	11/7/06	4/10/07	10/9/08					
ISSUE DATE	1/5/04	4/7/04	8/16/04	3/30/05	7/24/06	9/6/06	11/13/06	11/17/06	4/17/07	11/10/08				
REV#	0	1	2	3	4	5	6	7	8	9				
PROJECT ENG	1	1	1	1	1									
PROJECT MGR	1	1	1	1	1									
ABS	10								1	E/E				
USPH														
USCG														
HMP PC	12	12	12	12	12	1	1	1	1	1				
PROD DESIGN GROUP	1(3)	1(3)	1(3)	1(3)	1(3)	1	1	1	1	1				
HULL MGR														
HULL LEAD	(1)	(1)	(1)	(1)	(1)	1	1	1	1	1				
HVAC	1	1	1	1	1									
JOINER	1	1	1	1	1									
HPG PC	3	3(1)	3(1)	3(1)	3(1)	1	1	1	1	1				
NOISE CONT														
CHAND LLC														
ISSUED BY	AE	AE	AE	AE	SM	SM	SM	SM	DH					

FUNCTIONAL DESIGN DRAWING NOT FOR CONSTRUCTION

HULL APPLICABILITY

M282 HULL 1953
M283 HULL 1956
M284 HULL 1957

–	–	–	–	–	–	–	–	8	REV
–	–	–	–	–	–	–	–	10	SHT
5	9	8	9	8	8	9	9	9	REV
9	8	7	6	5	4	3	2	1A	1 SHT

REVISION STATUS

DRL NUMBERS

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REFERENCES

NO.	TITLE	DRAWING NUMBER
16	JOINER DOOR SCHEDULE	M282-640-FF26
15	STRUCTURAL DOORS, HATCHES, MANHOLES & SCUTTLES	M282-167-FH62
14	MISCELLANEOUS FOUNDATION BOOKLET	M282-180-FH43
13	CATCH HANDLING EQUIPMENT KEY PLAN & DETAILS	M282-085-FH86
12	GENERATOR INTERMEDIATE MASS RAFT DETAILS	M282-073-FP22
11	OCEANOGRAPHIC WINCH FDN, LAYOUT & DETAILS.	M282-591-FH79
10	PILOTHOUSE SCANTLINGS, 03-04 LVL	M282-110-FH14
9	AFT HOUSE SCANTLINGS, 01-03 LVL FR 39-AFT	M282-110-FH12
8	BULWARKS – LAYOUT & SCANTLINGS	M282-111-FH17
7	DECK FITTINGS & TIEDOWNS-KEY PLAN & DETAILS	M282-611-FH89
6	TYPICAL STRUCTURAL DETAILS	M282-100-FH67
5	HULL MIDBODY SCANTLINGS	M282-110-FH03
4	HULL TRANSOM SCANTLING	M282-110-FH05
3	BILGE KEEL LAYOUT	M282-110-FH54
2	WELDING BOOKLET	M282-100-FH90
1	BOSSING AND STERN FRAME	M282-100-FH18

DRAWING INDEX

SH	DESCRIPTION
10	M283/M284 SECTIONS & 01 LEVEL
9	GENERATOR FOUNDATION M283/M284
8	M283 & M284 PLANS & ELEVATIONS
7	PLANS & ELEVATIONS
6	SECTIONS
5	SECTIONS
4	SECTIONS
3	BHDS & SHELL, SECTIONS & ELEVATIONS
2	PLANS – BELOW TANK TOP TO 01 LEVEL
1A	REVISIONS CONTINUED
1	TITLE

VT Halter Marine, Inc.
Vision Technologies Systems

VESSEL: FRV40 CLASS 63m FISHERIES RESEARCH VESSEL

TITLE: HULL STERNBODY SCANTLINGS FR. 49 – FR. 82

DRAWN BY	WH 8/04/01
CHECKED BY	AE 12/22/03
APPROVED BY	RG 12/23/04
ABS APPV	
USCG APPV	
OWNER APPV	
HULL NO	APPLICABILITY
CAGE CODE	38213
SIZE	D
ESTIMATE NO	00-104
SCALE	NONE

JOB NO.	ITEM	DELIVERABLE	SHEET	REV
M282	110	FH04	001	09

FILE R:\M282\FUNCTIONAL DESIGN\INWORK\HULLDWGS | SHEET 1 OF 10

PLOT: 1=1

DWG NO. M282-110-FH04 SH 1

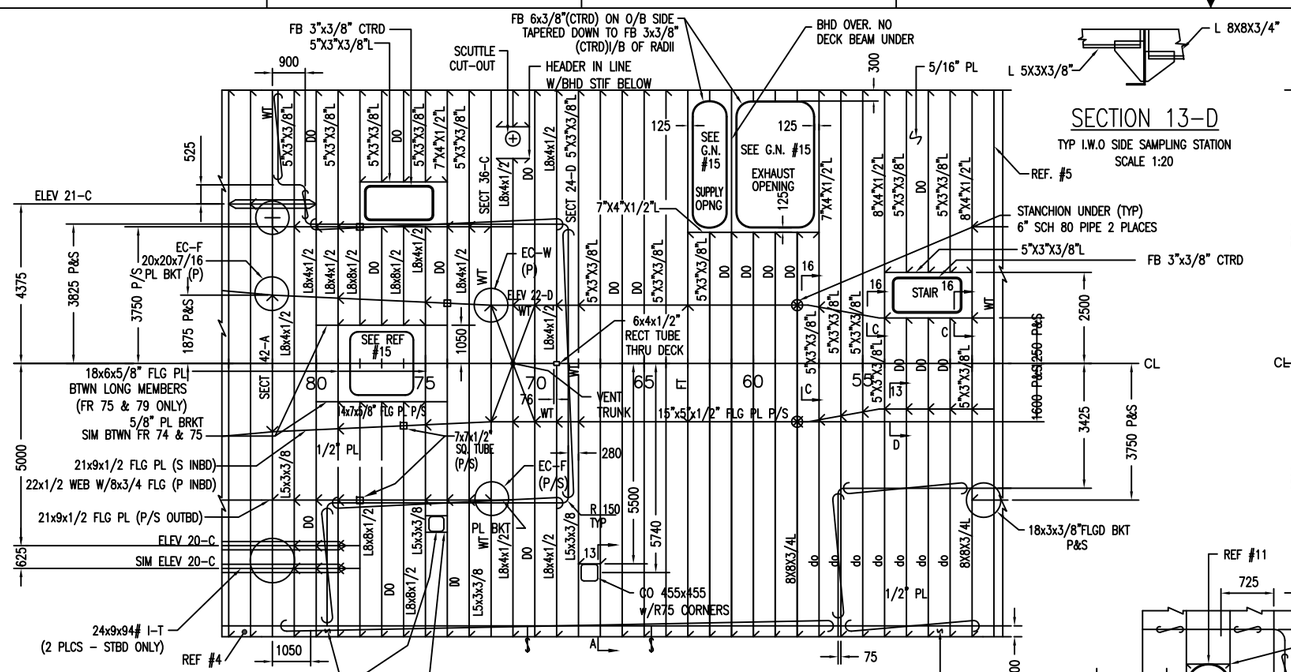
REVISIONS CONT'D

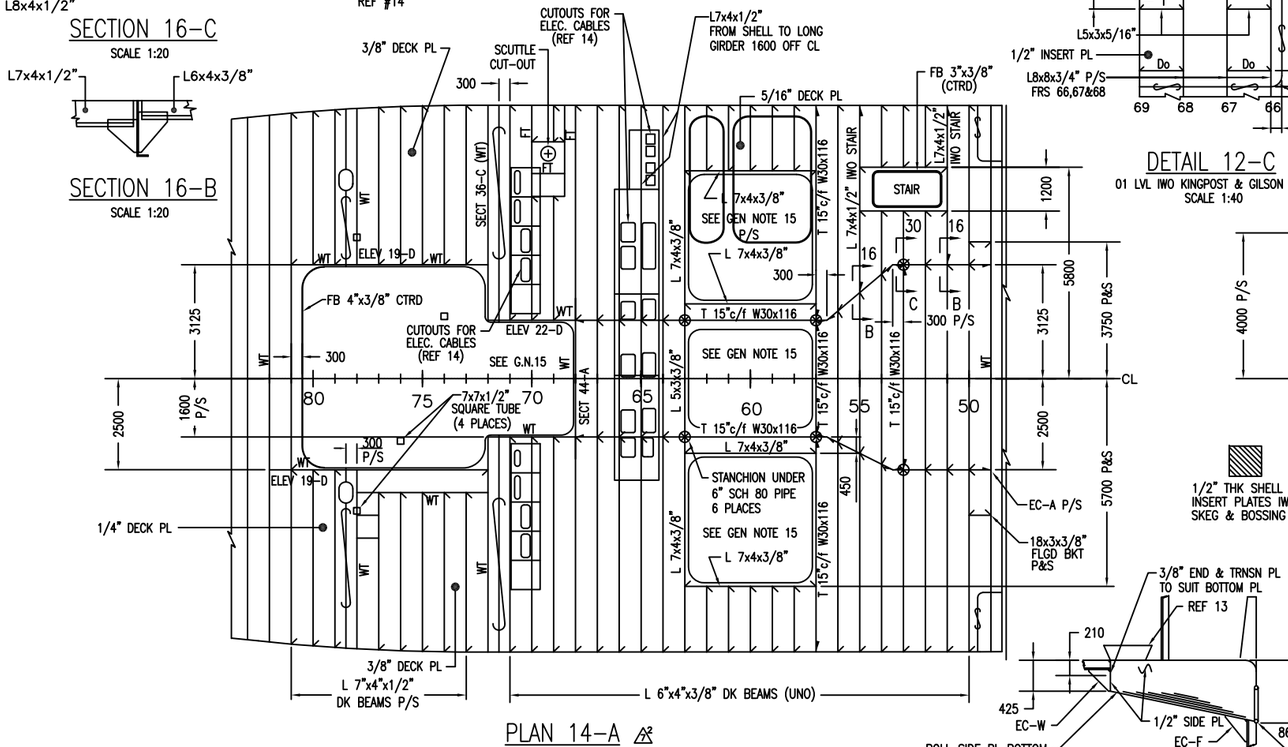
REV	ZONE	DESCRIPTION	DATE	APPROVED
6		1. SH 1, REFERENCES: ADDED REF #16, FH26 JOINER DOOR SCHEDULE, TO REFERENCES. 2. SH 3, ELEVATION 21-B: EXTENDED BHD TO FR 49 AND DETAILED CLEAR OPENINGS FOR STAIRWELL JOINER DOORS. 3. SH 8, ELEVATION 62-D: EXTENDED BHD TO FR 49 AND DETAILED CLEAR OPENINGS FOR STAIRWELL JOINER DOORS. 4. SH 1, ADDED SH 1A TO DRAWING INDEX AND REVISION STATUS. ITEM 1 THRU 3 PER ENGINEERING DEVELOPMENT	11/07/06 MDP	11/13/06 SM
7		1. SH 1, DRAWING INDEX & REVISION STATUS; ADDED SHT 10. PROPULSION XFMR MOVED AFT TO MAKE ADEQUATE SPACE BETWEEN XFMR AND GENERATOR FOR PASSAGE. SHT 10 DETAILS ADDITIONAL UNDERDECK STRUCTURE FOR XFMR RELOCATION. 2. SH 2, PLAN 14-A; ADDED NOTE REGARDING APPLICABILITY. CHANGED SCANTLING TWO 24"X24" EOS HATCH FOR M283/M284. 3. SH 7, ELEVATION 54-D, PLAN 54-C, ELEVATION 52-D & ELEVATION 51-D; ADDED NOTE REGARDING APPLICABILITY. ITEM 1 & 3 PER VENDOR CHANGE ITEM 2 PER ENGINEERING CHANGE THIS REVISION APPLICABLE TO M283/M284 ONLY	4/10/07 MDP	4/17/07 SM
8		1. SH 1, DRAWING INDEX; REVISED APPLICABILITY NOTE. 2. SH 2, ELEVATION 10-C; REVISED APPLICABILITY NOTE. 3. SH 3, ELEVATION 21-B; REVISED APPLICABILITY NOTE. 4. SH 3, ELEVATION 22-B; REVISED APPLICABILITY NOTE. 5. SH 4, SECTION 27-C; REVISED APPLICABILITY NOTE. 6. SH 5, SECTION 39-A; REVISED APPLICABILITY NOTE. 7. SH 7, ELEVATION 54-A; REVISED APPLICABILITY NOTE. 8. SH 8, ALL; REVISED APPLICABILITY NOTE. 9. SH 8, ELEVATION 62-D; REVISED DOOR LOCATION. 10. SH 3, ELEVATION 20-B; ADDED APPLICABILITY NOTE. 11. SH 3, ELEVATION 18-C; ADDED WINDOW @ FR 52, PORT SIDE ONLY. 12. SH 10, ELEVATION 74-C & ELEVATION 74-D; ADDED ELEVATIONS SHOWING BHD 3500 OCL FOR M283 & M284. 13. SH 8, PLAN 59-B; ADDED 6"x4"X5/16" L AT 7146mm OCL BTW FR 80 & FR 82. ITEMS 1 THRU 12 PER PER ECP 056C. ITEM 13 PER ECP 095. THIS REVISION APPLICABLE TO M283/M284 ONLY.	10/9/08 MDP	11/10/08 DH
9		1. SH 2, PLAN 14-C; CHANGED BRACKET AT 1875 OCL PORT TO 20"x20". 2. SH 3, ELEVATION 18-C; CHANGED FROM WINDOW TO PORTLIGHT. 3. SH 6, SECTION 42-A; ADDED DETAILS OF OUTRIGGER CONNECTION SUPPORT STRUCTURE. 4. SH 8, PLAN 59-B; REMOVED 6x4x5/16" L PORT SIDE BETWEEN FRAMES 80 AND 82. ITEM 1 PER OWNER REQUEST. ITEM 2 PER USCG REQUIREMENT. ITEM 3 & 4 PER YARD REQUEST. THIS REVISION APPLICABLE TO M283/M284 ONLY.	6/10/09 MDP	

DWG NO. M282-110-FH04 SH1A

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	110	FH04	01A	09
ESTIMATE NO	SCALE		FILE R:\M282\FUNCTIONAL DESIGN\INWORK\HULLDWGS			SHEET 1A OF 10	
00-104	NONE						

PLOT: 1=1

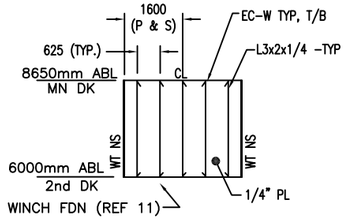

FB 3"x3/8" CTRD
5"X3"X3/8"L
900
SCUTTLE CUT-OUT
HEADER IN LINE W/BHD STIF BELOW
FB 6x3/8"(CTRD) ON O/B SIDE TAPERED DOWN TO FB 3x3/8" (CTRD)I/B OF RADII
BHD OVER. NO DECK BEAM UNDER
SEE G.N. #15
SUPPLY OPNG
SEE G.N. #15
EXHAUST OPENING
125
5/16" PL
REF. #5
STANCHION UNDER (TYP) 6" SCH 80 PIPE 2 PLACES
5"X3"X3/8"L
FB 3"x3/8" CTRD
STAIR
6x4x1/2" RECT TUBE THRU DECK
VENT TRUNK
15"x5"x1/2" FLG PL P/S
18x6x5/8" FLG PL BTWN LONG MEMBERS (FR 75 & 79 ONLY)
5/8" PL BRKT SIM BTWN FR 74 & 75
1/2" PL
21x9x1/2 FLG PL (S INBD)
22x1/2 WEB W/8x3/4 FLG (P INBD)
21x9x1/2 FLG PL (P/S OUTBD)
ELEV 20-C
SIM ELEV 20-C
ELEV 21-C
EC-F 20x20x7/16 PL BKT (P)
EC-W (P)
ELEV 22-D
7x7x1/2" SQ TUBE (P/S)
EC-F (P/S)
PL BKT
R 150 TYP
CO 455x455 w/R75 CORNERS
18x3x3/8"FLGD BKT P&S
24x9x94# I-T (2 PLCS - STBD ONLY)
REF #4
3/8" PL ROLLED R150 STBD ONLY
OPNG FOR WT HATCH REF #15 (TRUNK BELOW) REF #14
SECT 42-A
SECT 36-C
SECT 24-D
SECT 22-C
SEE REF #15
L8x4x1/2
L8x6x1/2
L5x3x3/8
L6x4x5/16
L 8X8X3/4"
L 5X3X3/8"
SECTION 13-D
TYP I.W.O SIDE SAMPLING STATION
SCALE 1:20
1/4" PL
* DENOTES L 6x4x5/16" HDRS IWO RESCUE BOAT DAVIT & WINCH
INCINERATOR OIL TK SECT 17-D, SHT 3
MANHOLE
L 3x2x1/4"
BKT
1500 P&S
1/2" INSERT PL
EL 21-C
ELEV. 23-B
BHD PLTG 1/4" L3x3x3/16" BHD STIF W/"EC-S" T & B
SEE REF #15 FOR DOOR LOC ON LONG. BHD
FB 15x1/4" w/75 DECK UPSTAND
R150 TYP
1" PL P/S
DET 12-C
18X97# I-T (FR 58-69)
BHD BTWN 01 LVL & MAIN DK FORMING FT BOUNDARY
FB 3"x3/8" CTRD
ELEV 21-B
LONGL GDR 21x8 3/8"x83# IT
3/8"BKTw/8"FLG
16x7x36# I-T FRS 78&79
ELEV 24-B
L 7x4x1/2" (4 PLCS) (P/S)
7x7x1/2" HS UNDER
15x1/2 WEB w/6 1/2x1/2"FB
15x6x1/2 FLG PL FR 73&74
ELEV 23-A
3/4" PL
3/4" PL BRKT (FULL PENETRATION WELD ONE SIDE ONLY)
24 1/2x3/4 WEB W/14 1/2x1 1/2 FLG (TYP CRANE BACK-UP STRUCTURE)
FB 19 1/2x1/4" w/75 DECK UPSTAND (IWO TRANSV FR 78 (& 79 ONLY)
L6x4x5/16" TYP OUTBD OF LONGL BHD (UNO)
L5x3x5/16" HDRS FR 57 TO 59
L5x3x5/16" HDRS IWO SIDE "A" FRAME
6"ø SCH 80 PIPE STANCHION UNDER "A" FRAME, STBD ONLY.
DENOTES L 5x3 1/2x1/4" HEADER UNDER DECK IWO HYDROGRAPHIC WINCHES
PLAN 14-C
MAIN DECK- 8650mm ABL
SEE REF.7 FOR DECK SOCKET LOCATIONS & DECK REINFORCEMENT DETAILS
PLAN 10-C
01 LEVEL - 11407mm ABL
M282 ONLY
FOR M283 & M284 SEE PLAN 59-B



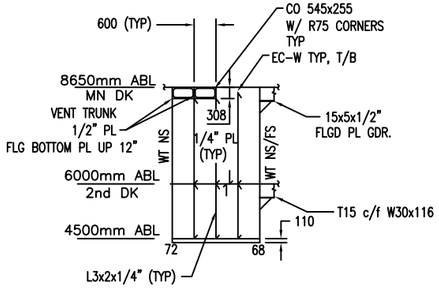
DWG NO. M282-110-FH04 SH 2

HULL NO. 1953	CONT ROOT 3B213	SIZE D	JOB NO. M282	ITEM 110	DRG/DWGABLE FH04	SHEET 002	REV 09
ESTIMATE NO. 00-104	SCALE 1:80		PLOT: R:\M282\FUNCTIONAL DESIGN\NWORK\HULLDWG\FH04-002-08.DWG			SHEET 2 OF 10	

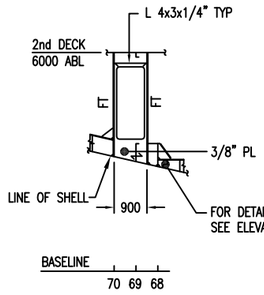
PLOT: 1:1



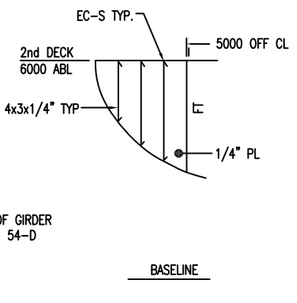
SECTION 24–D
WT TRANSV BHD FR 68
LKG FWD



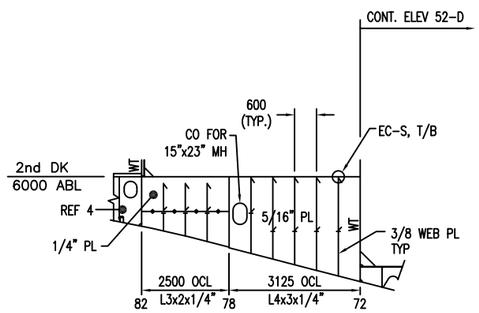
ELEVATION 22–D
WT LONG'L BHD 1600 OFF CL P&S
FR. 68 TO FR. 72
PORT SHOWN LKG OUTBD
STBD SIDE OPP HAND



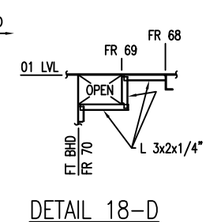
ELEVATION 21–D
FT LONGL BHD 5000 OFF CL
PORT SIDE ONLY
LOOKING OUTBD



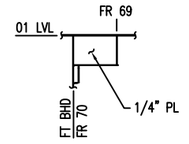
SECTION 20–D
FT TRANS BHD FR 68 1/2
PORT SIDE ONLY
LOOKING FWD

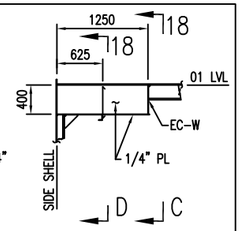


ELEVATION 19–D
NT/WT LONG'L BHD
FR. 72 TO FR. 82
PORT SHOWN LKG OUTBD
STBD SIDE SIM FROM FR 72 – 78

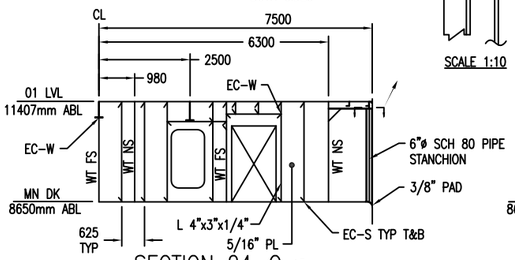


DETAIL 18–D
LOOKING OUTBD
SCALE 1:40

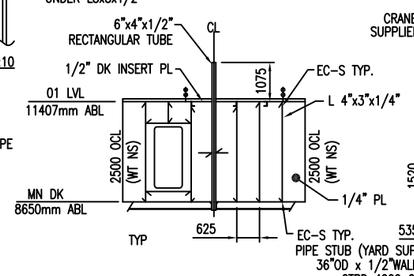




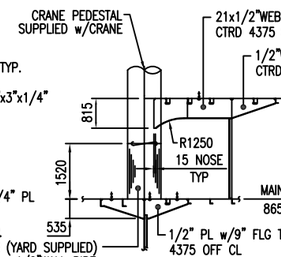
SECTION 17–D
FRAME 69
PORT SIDE LKG FWD
SCALE 1:40



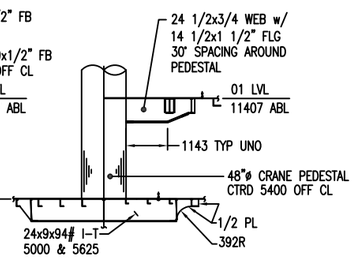
SECTION 24–C ⚠5
WT TRANSV BHD FR 58
LKG FWD



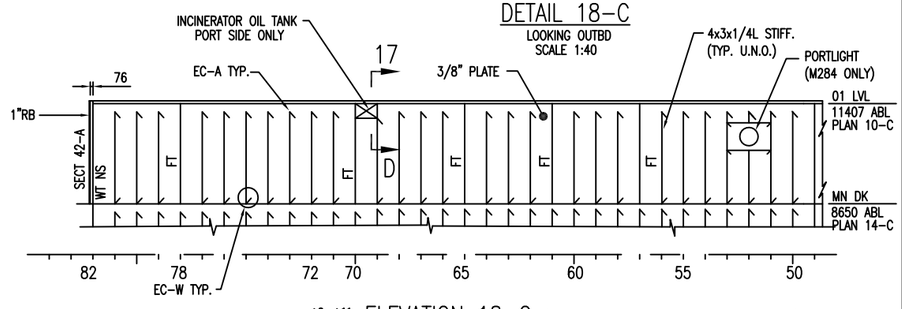
SECTION 22–C
WT TRANSV BHD FR 69
LKG FWD



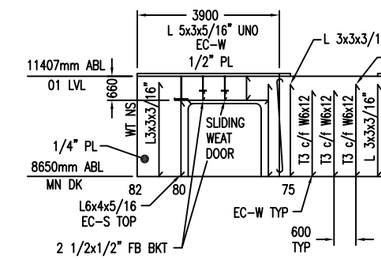
ELEVATION 21–C ⚠2
LKG TO PORT
PORT SIDE CRANE PEDESTAL



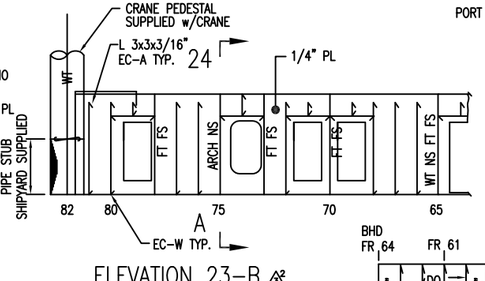
ELEVATION 20–C ⚠1,10⚠3
LKG TO PORT
STBD SIDE CRANE PEDESTAL



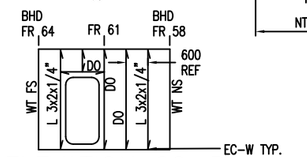
DETAIL 18–C
LOOKING OUTBD
SCALE 1:40



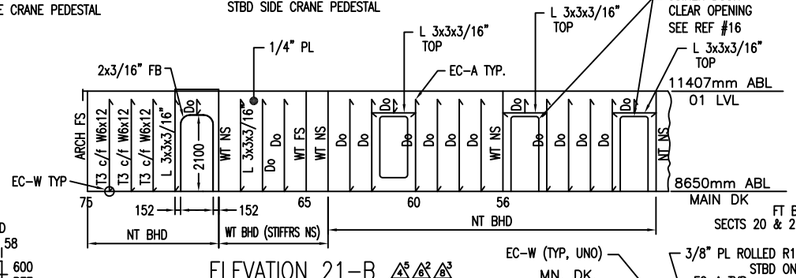
ELEVATION 24–B ⚠14⚠2
WEAT LONG'L BHD 2500 OCL STBD
LKG INBD



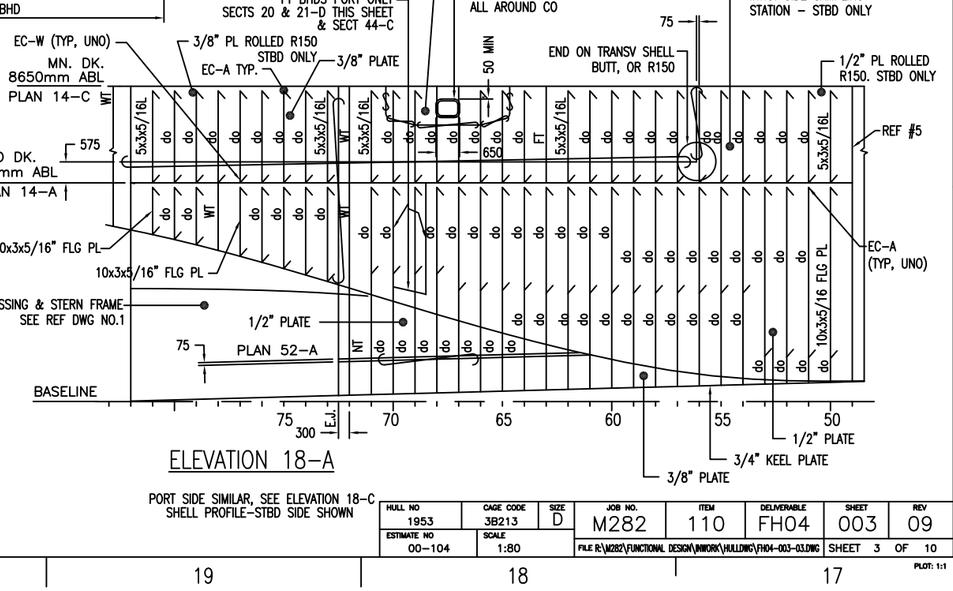
ELEVATION 23–B ⚠2
WT LONG'L BHD 3600 OCL PORT
LKG OUTBD

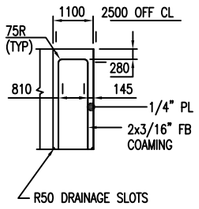


ELEVATION 22–B⚠5⚠8⚠4
WT LONG'L BHD 980 OCL (S)
STBD LKG INBD
M282 ONLY

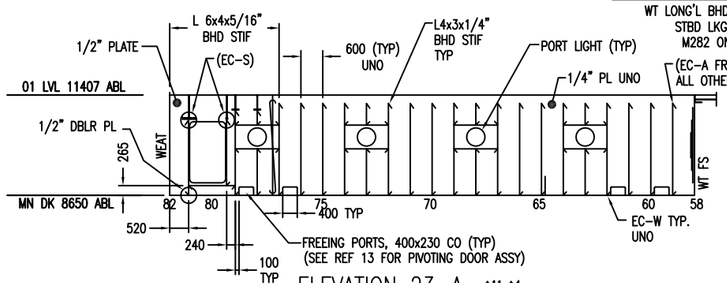


ELEVATION 21–B ⚠5⚠2⚠3
NT/WT LONG'L BHD 2500 OCL PORT
LKG OUTBD
M282 ONLY
FOR M283 & M284 SEE ELEV 62–D

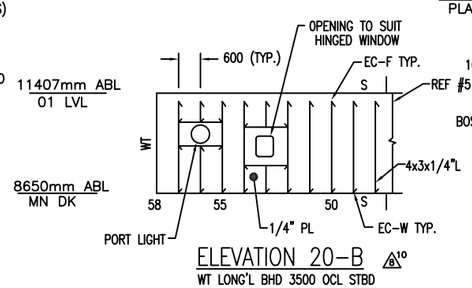




SECTION 24–A
OPEN TRANSVERSE BHD
FR. 75 PORT
LKG FWD



ELEVATION 23–A ⚠1⚠4
WEAT LONG'L BHD 6300 OCL STBD
FR. 58 TO FR. 82
LKG INBD



ELEVATION 20–B ⚠10
WT LONG'L BHD 3500 OCL STBD
FR. 49 TO FR. 58
LKG INBD
M282 ONLY
FOR M283 SEE ELEVATION 74–D
FOR M284 SEE ELEVATION 74–C

DETAIL 17–B
1/2" INSERT PL IWO SLUICE OPNG
STBD SIDE ONLY
SCALE: 1:40

ELEVATION 18–C
SHELL PROFILE
PORT SIDE ONLY

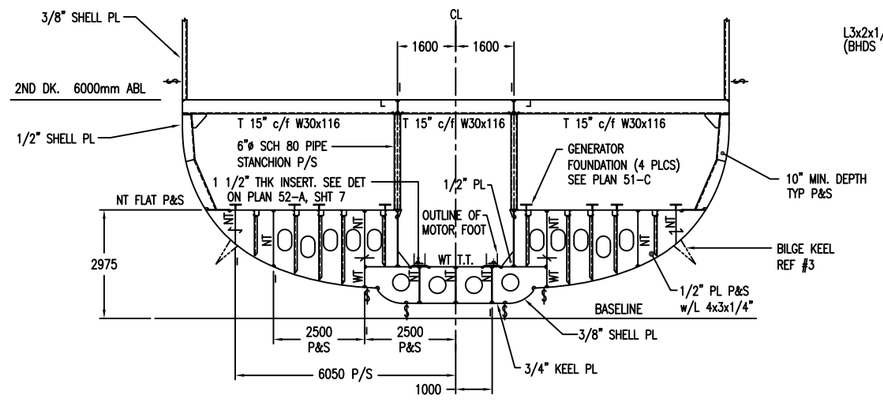
PORT SIDE SIMILAR, SEE ELEVATION 18–C
SHELL PROFILE–STBD SIDE SHOWN

ELEVATION 18–A

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
1953	3B213	D	M282	110	FH04	003	09
ESTIMATE NO	SCALE						
00–104	1:80						

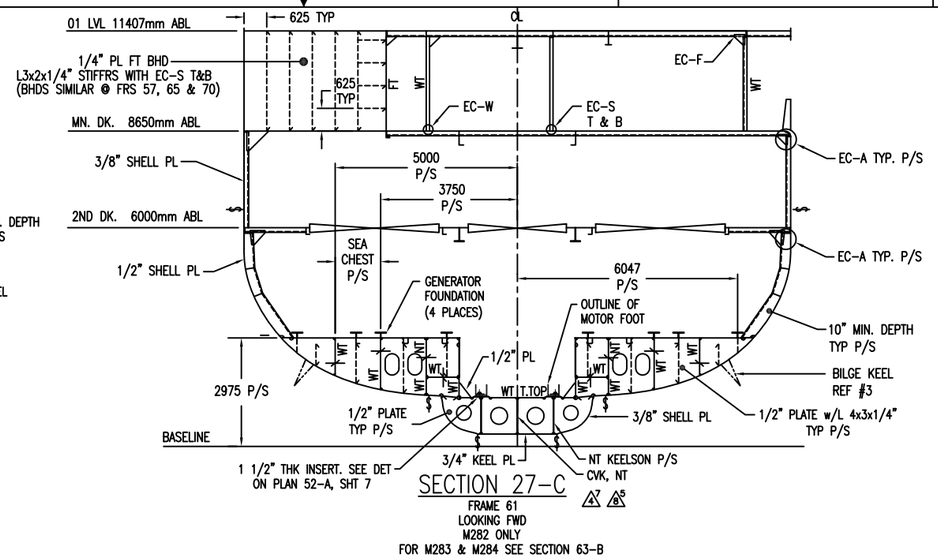
FILE R:\M282\FUNCTIONAL DESIGN\NWORK\HULLDWG\FH04–003–03.DWG SHEET 3 OF 10
PLOT: 1:1

DWG NO. M282–110–FH04 SH 3



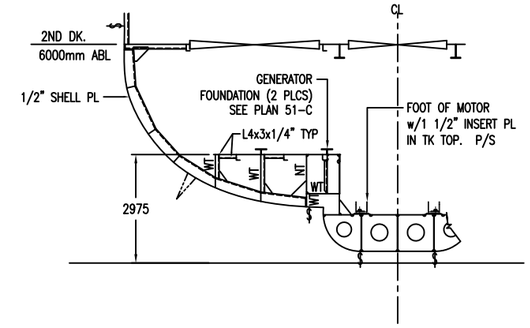
SECTION 30-D

FRAME 57
LOOKING FWD



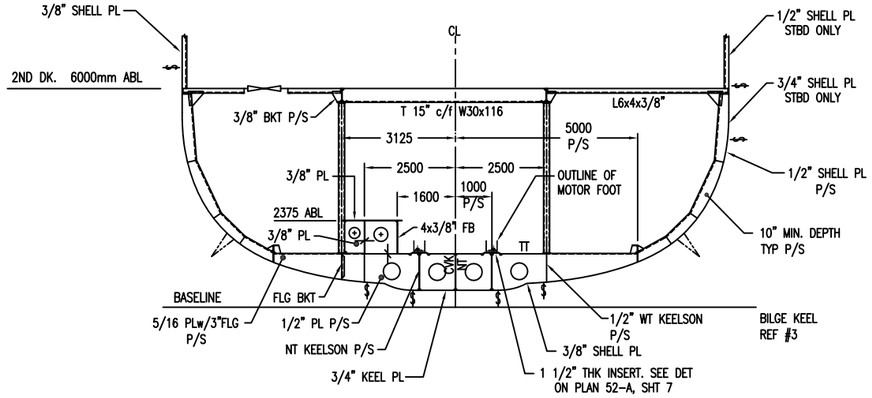
SECTION 27-C

FRAME 61
LOOKING FWD
M282 ONLY
FOR M283 & M284 SEE SECTION 63-B


CL
2ND DK. 6000mm ABL
GENERATOR FOUNDATION (2 PLCS) SEE PLAN 51-C
1/2" SHELL PL
FOOT OF MOTOR w/1 1/2" INSERT PL IN TK TOP. P/S
L4x3x1/4" TYP
2975

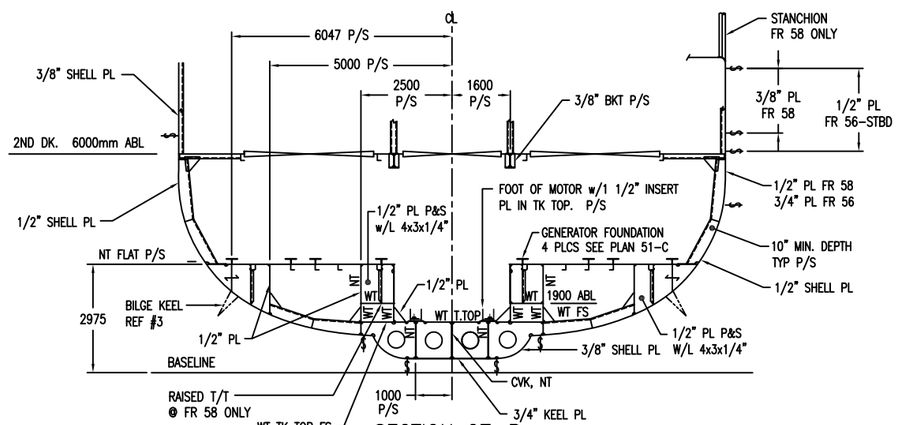
SECTION 25-D

FRAME 62
LOOKING FWD
FOR DETAILS NOT SHOWN
SEE SECTION 27-A



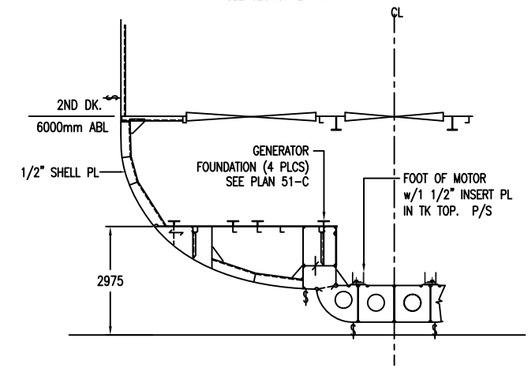
SECTION 30-C

FRAME 53
LOOKING FWD



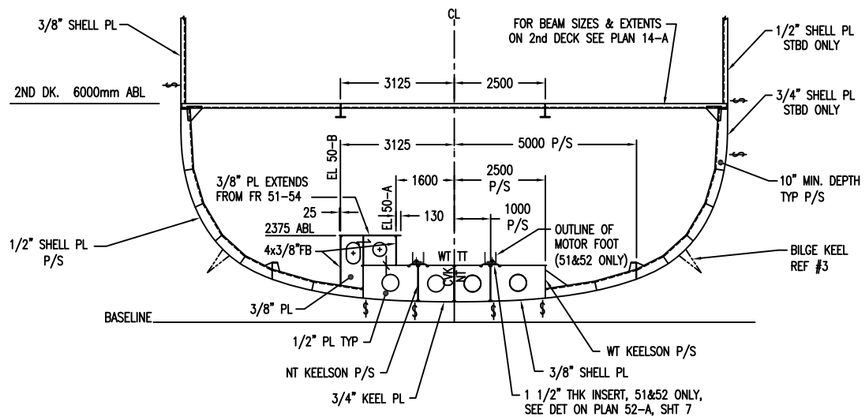
SECTION 27-B

FRAME 58
LOOKING FWD
(FR 56 SIMILAR)



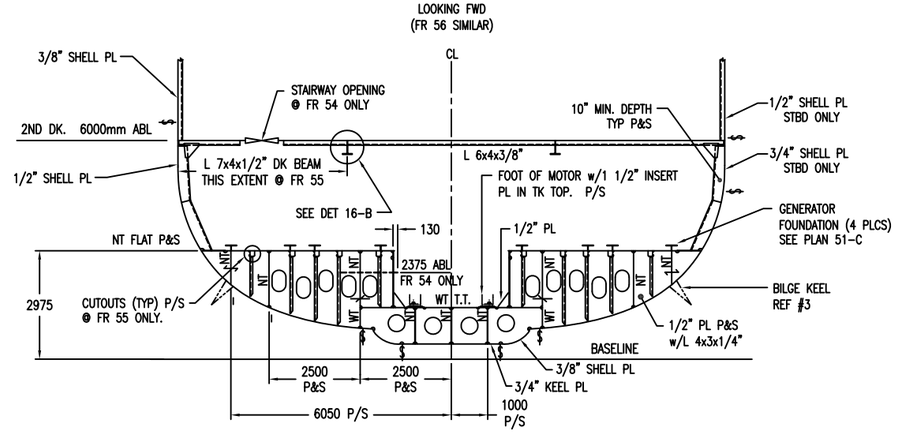
SECTION 25-C

FRAME 60
LOOKING FWD
FOR DETAILS NOT SHOWN
SEE SECTION 27-A



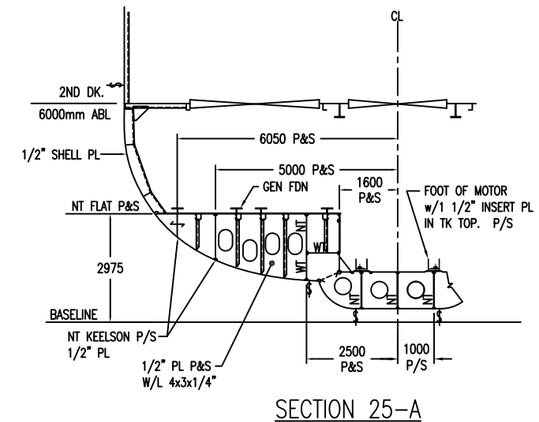
SECTION 30-A

FRAME 50
FR 51 & 52 SIM
LOOKING FWD
FDN 2375 ABL @ FRS 51 & 52 ONLY



SECTION 27-A

FRAME 54
LOOKING FWD
FR 55 SIM, UNO



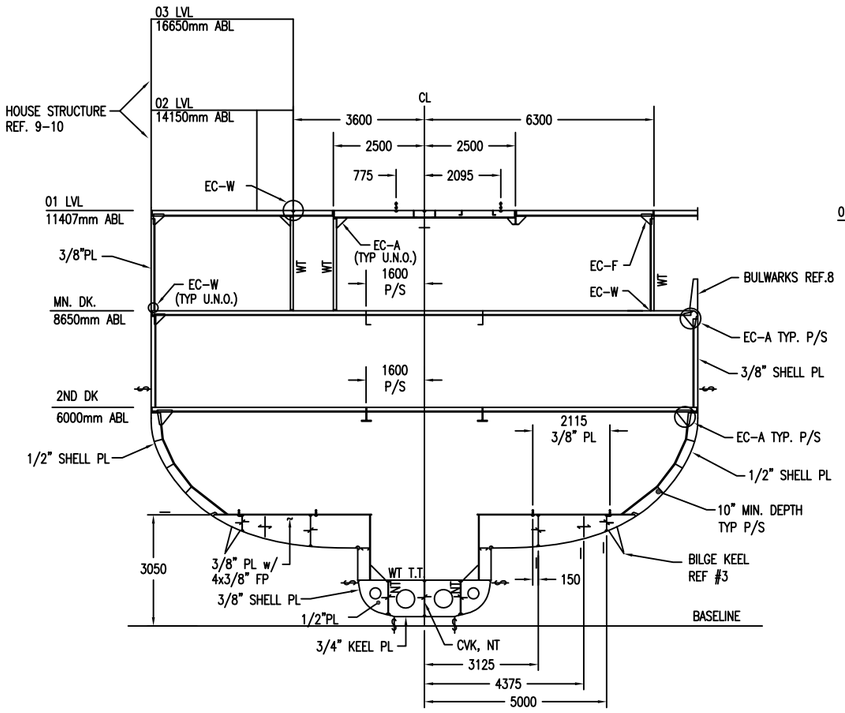
SECTION 25-A

FRAME 59
LOOKING FWD

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
1953	3B213	D	M282	110	FH04	004	08
ESTIMATE NO	SCALE						
00-104	1:80						

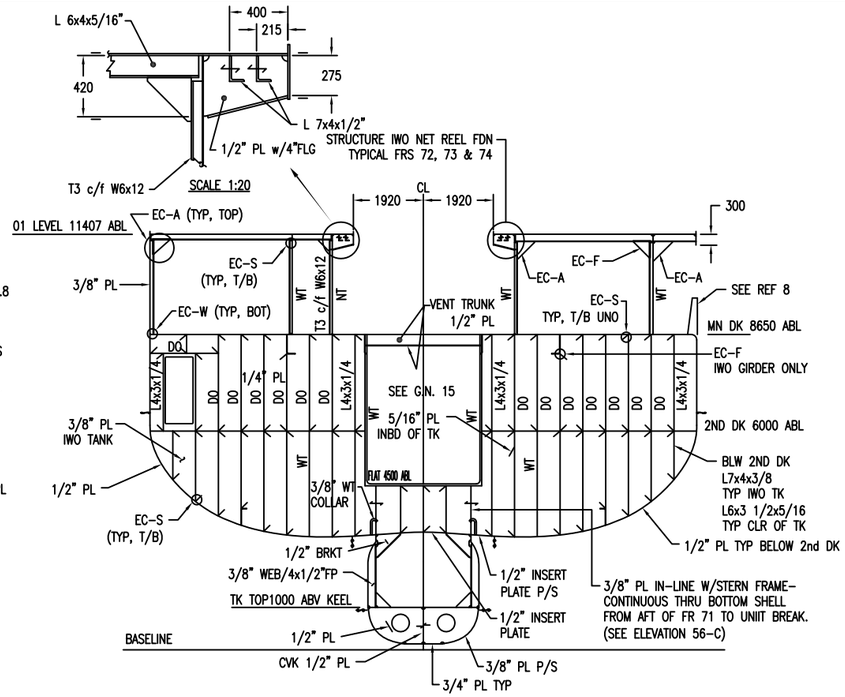
FILE R:\M282\FUNCTIONAL DESIGN\MWORK\HULLDWG\FH04_004_00.DWG | SHEET 4 OF 10 | PLOT: 1:1

DWG NO. M282-110-FH04 SH 4



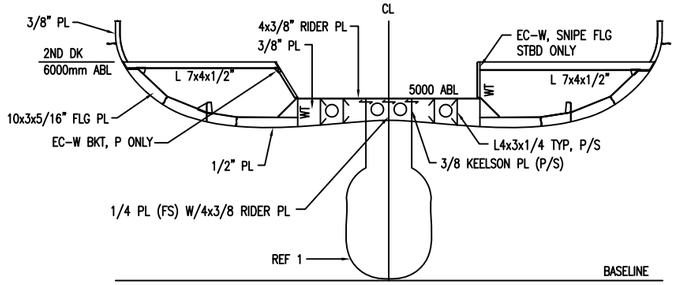
SECTION 39-C

FRAME 66
LOOKING FWD



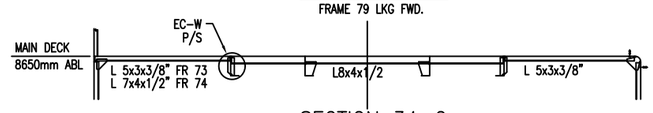
SECTION 36-C ⚠3

FRAME 72
LOOKING FWD



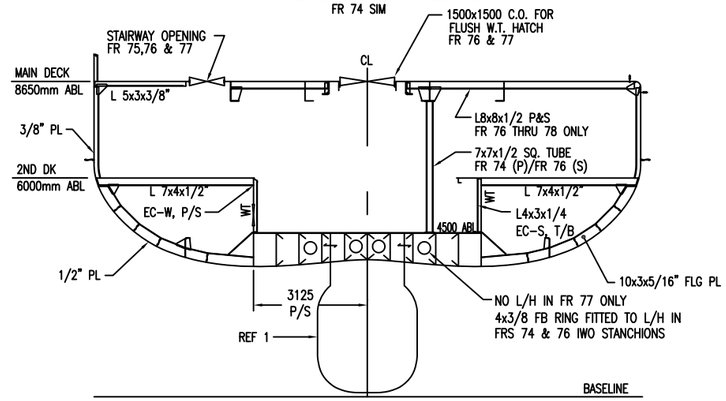
SECTION 34-D ⚠5

FRAME 79 LKG FWD.



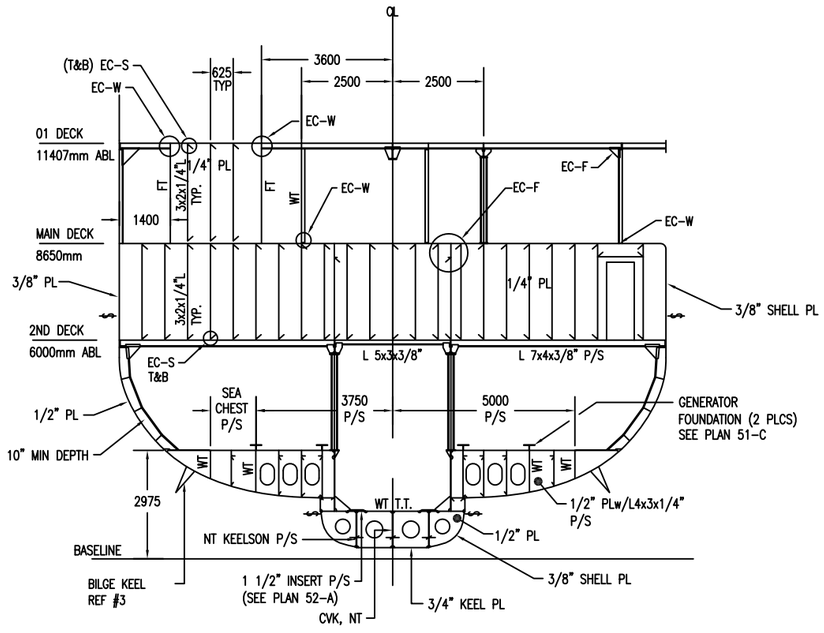
SECTION 34-C

DECK SECTION FRAME 73 LOOKING FWD
FR 74 SIM



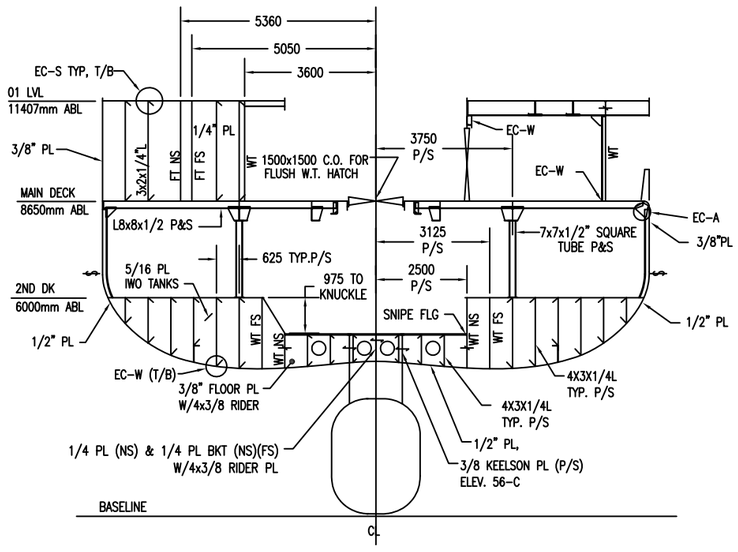
SECTION 34-B ⚠4 ⚠3

SEE SECTION "34-D" FOR ADD'L DETAILS
FRAME 76 LOOKING FWD
FRS 73, 74, 75 & 77 SIM



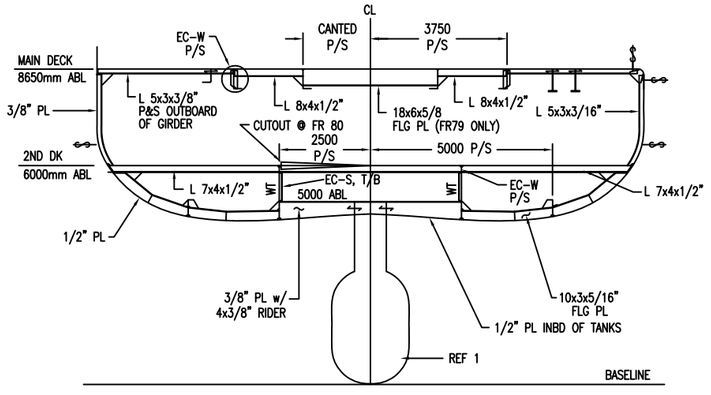
SECTION 39-A ⚠8 ⚠6

FRAME 63
LOOKING FWD
M282 ONLY
FOR M283 & M284 SEE SECTION 63-A



SECTION 36-A ⚠2

FRAME 78
LOOKING FWD



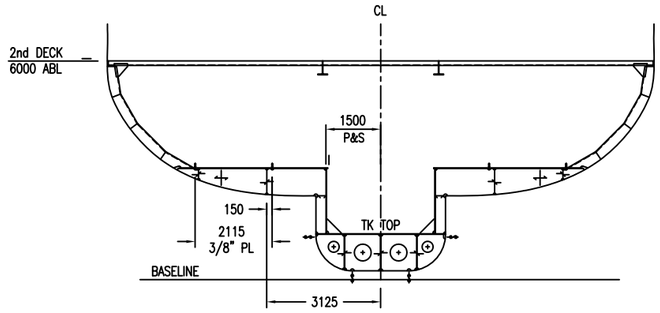
SECTION 34-A ⚠12 ⚠5

FR 81 LKG FWD
FR 80 SIM.

FULL NB 1953	CASE CODE 3B213	REV D	SHIP NO. M282	TYPE 110	DELIVERABLE FH04	ACTIVITY 005	NO. 08
SUBSWBS NO 00-104	SCALE 1:80		PATH R:\M282\FUNCTIONAL DESIGN\INWORK\HULLDWGS			SHEET 5 OF 10	

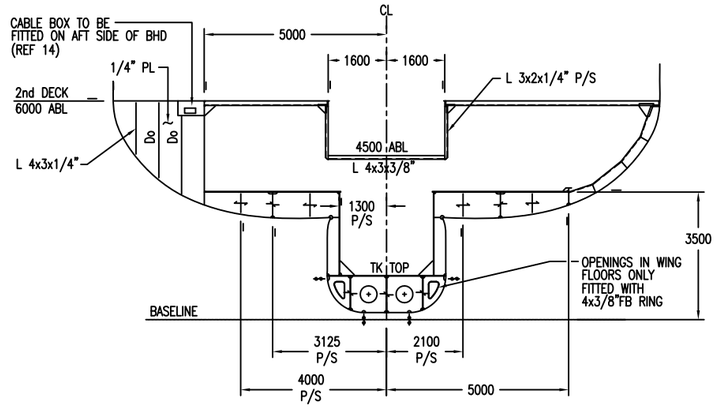
DWG NO. M282-110-FH04 SH 5

PLOT: 1:1



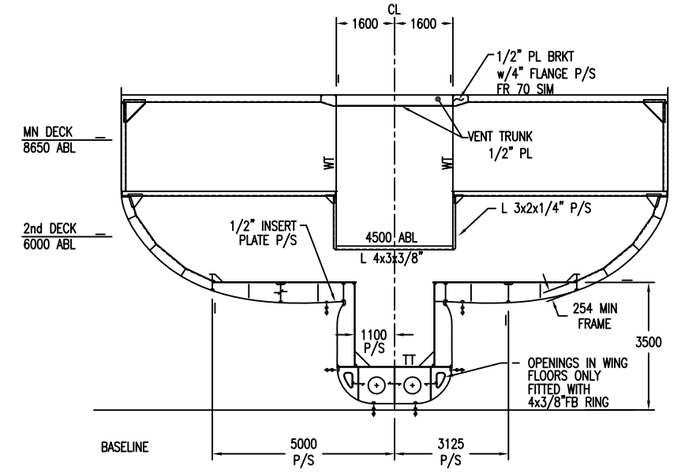
SECTION 47-C

FRAME 67
LOOKING FWD
FOR INFO NOT SHOWN, SEE SECT 47-A



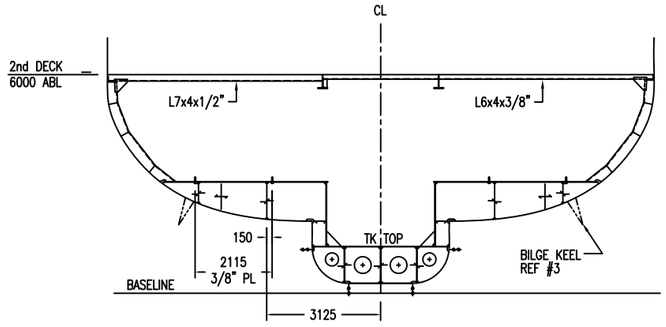
SECTION 44-C

FRAME 70
LOOKING FWD
FOR INFO NOT SHOWN, SEE SECT 47-A



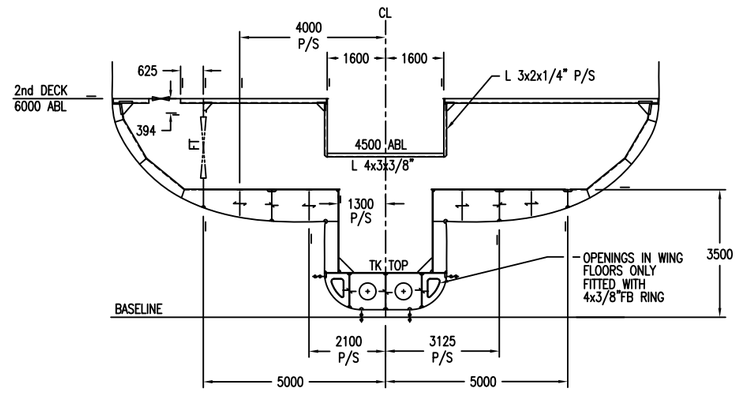
SECTION 42-C

FRAME 71
LOOKING FWD
FOR INFO NOT SHOWN, SEE SECT 47-A



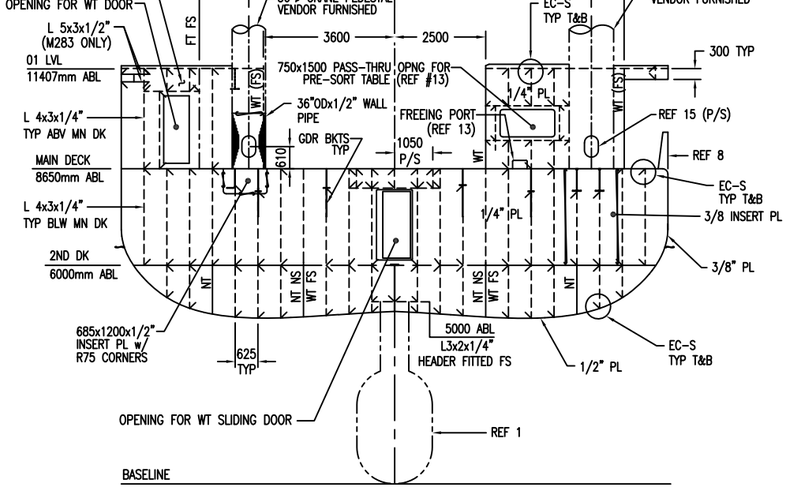
SECTION 47-B

FRAME 65
LOOKING FWD
FOR INFO NOT SHOWN, SEE SECT 47-A



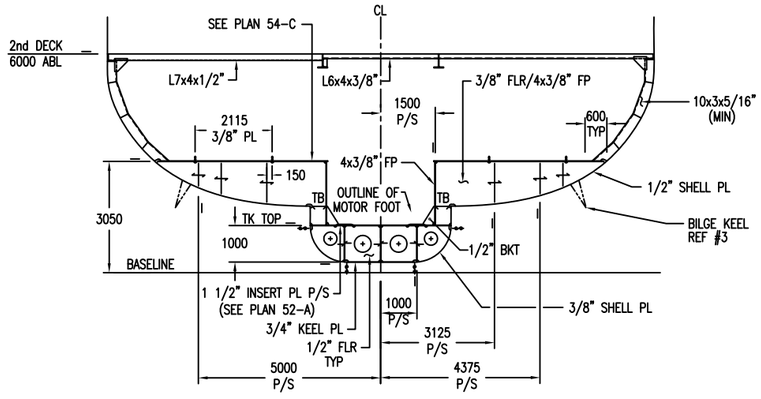
SECTION 44-B

FRAME 69
LOOKING FWD
FOR INFO NOT SHOWN, SEE SECT 47-A



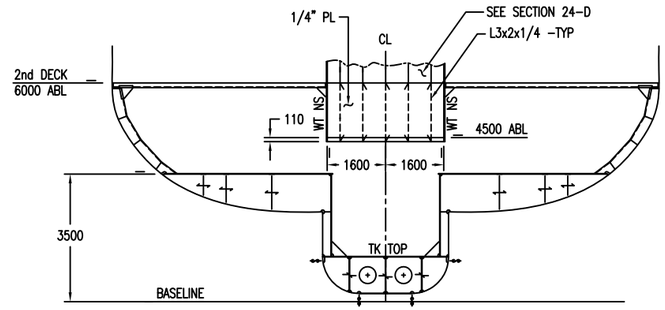
SECTION 42-A ⚠1 ⚠2 ⚠3

WT BHD @ FR 82
LOOKING FWD



SECTION 47-A

FRAME 64
LOOKING FWD



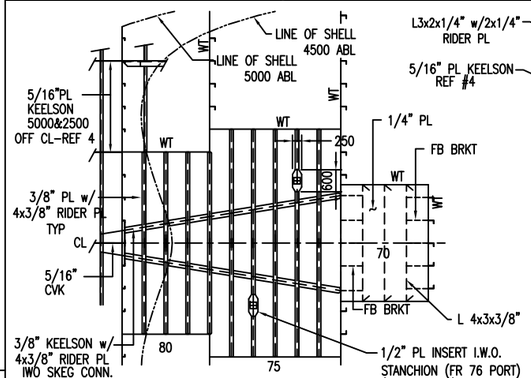
SECTION 44-A

FRAME 68
LOOKING FWD
FOR INFO NOT SHOWN, SEE SECT 47-A

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
1953	3B213	D	M282	110	FH04	006	09
ESTIMATE NO	SCALE						
00-104	1:80		FILE R:\M282\FUNCTIONAL DESIGN\WORK\HULLDWG\FH04_006_02.DWG			SHEET 6 OF 10	

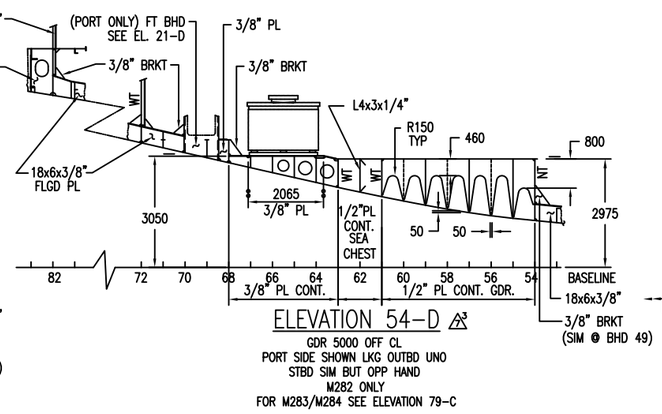
PLOT: 1:1

DWG NO. M282-110-FH04 SH 6



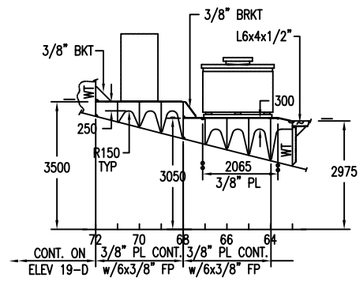
PLAN 55-C [1]

5000/4500 ABL



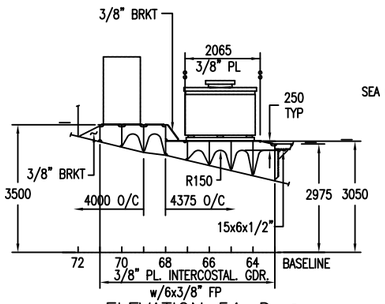
ELEVATION 54-D [3]

GDR 5000 OFF CL
PORT SIDE SHOWN LKG OUTBD UNO
STBD SIM BUT OPP HAND
M282 ONLY
FOR M283/M284 SEE ELEVATION 79-C



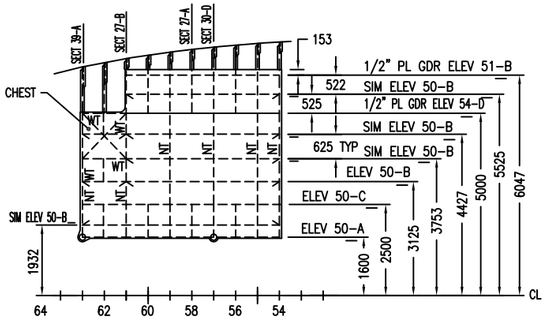
ELEVATION 52-D [3]

GDR 3125 OFF CL
PORT SIDE SHOWN LKG OUTBD
STBD SIM BUT OPP HAND
M282 ONLY
FOR M283/M284 SEE ELEVATION 77-C

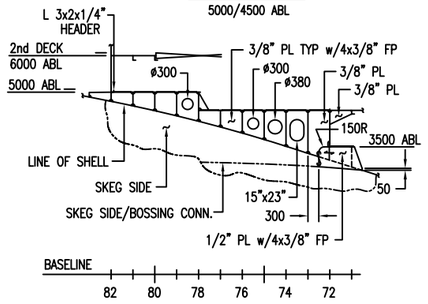


ELEVATION 51-D [3]

GDR 4000/4375 OFF CL
PORT SIDE SHOWN LKG OUTBD
STBD SIM BUT OPP HAND
M282 ONLY
FOR M283/M284 SEE ELEVATION 76-C

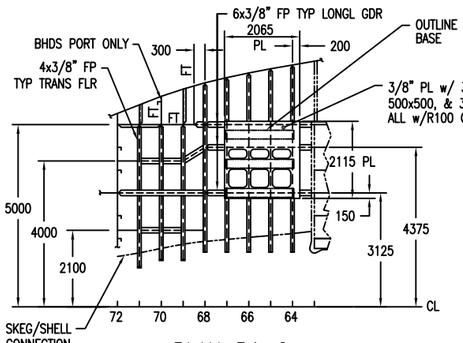


PLAN 50-D



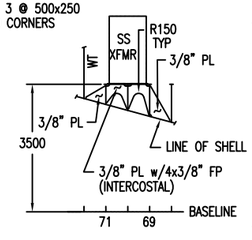
ELEVATION 56-C

GIRDER IWO OF SKEG CONNECTION



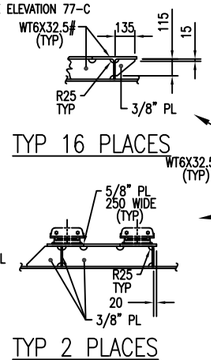
PLAN 54-C [3]

PLAN OF FLOOR & GDR FP's
PORT SHOWN, STBD SIM BUT O.H. UNO
M282 ONLY
FOR M283/M284 SEE ELEVATION 79-B



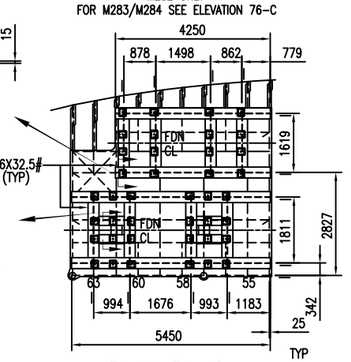
ELEVATION 52-C

GDR 2100 OFF CL
PORT SIDE SHOWN LKG OUTBD
STBD SIM BUT OPP HAND



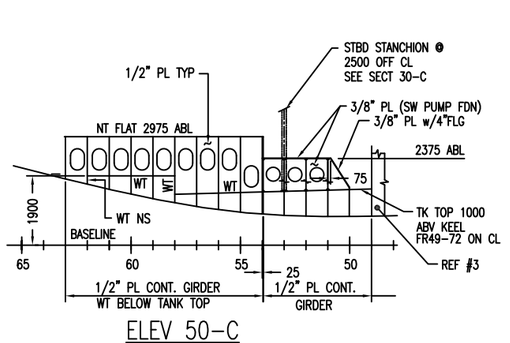
TYP 16 PLACES

TYP 2 PLACES



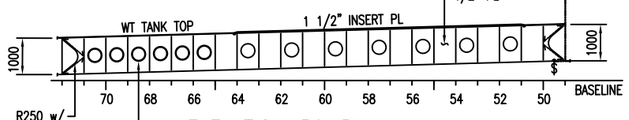
PLAN 51-C [3,4,5]

GENERATOR FOUNDATION MOUNTED ON 2975 ABL FLAT
PORT SIDE SHOWN, STBD SIDE SIM BUT OPP. HAND UNO
M282 ONLY, FOR M283/M284 SEE SH 9



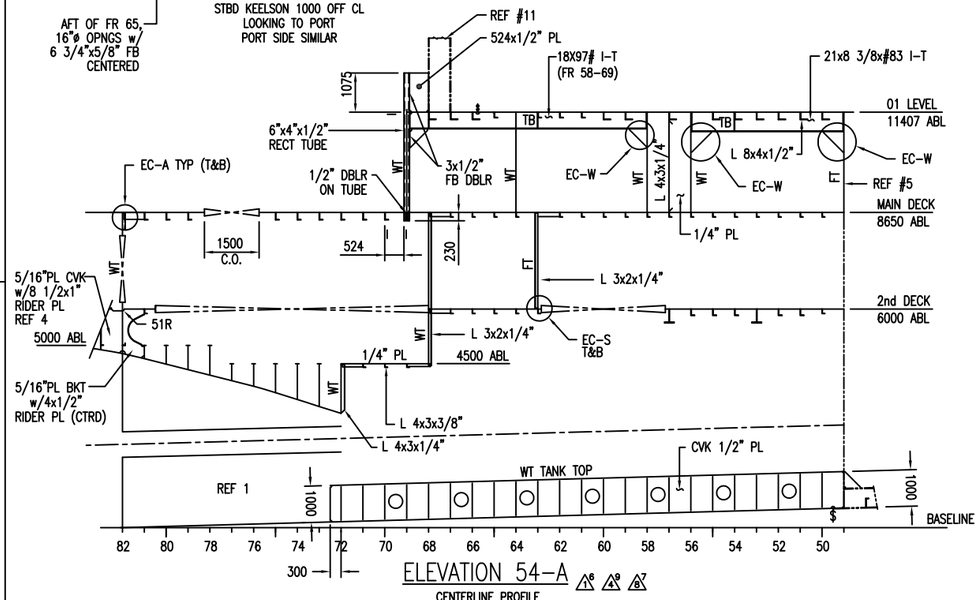
ELEV 50-C

WT/NT KEELSON 2500 OCL
PORT SIDE LOOKING OUTBD
STBD SIDE SIM BUT O.H.



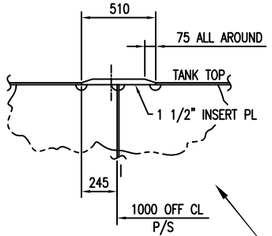
ELEVATION 56-B

STBD KEELSON 1000 OFF CL
LOOKING TO PORT
PORT SIDE SIMILAR



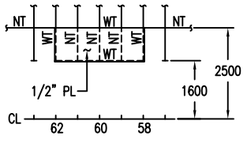
ELEVATION 54-A [1,6,9,7]

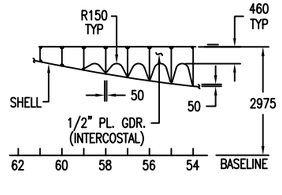
CENTERLINE PROFILE
LOOKING TO PORT
M282 ONLY
FOR M283 & M284 SEE ELEVATION 59-A



PLAN 52-B

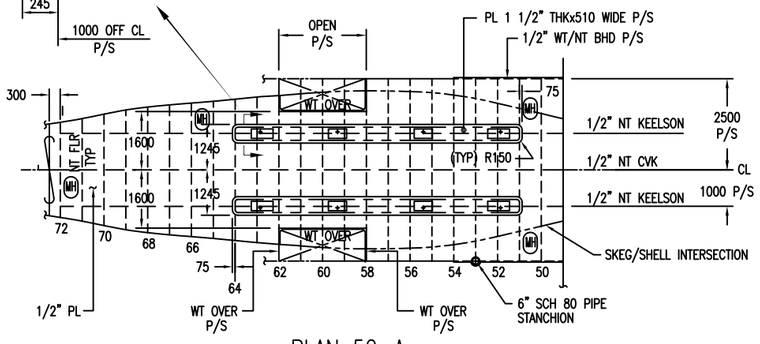
STEPPED TANK TOP 1900 ABL
PORT SHOWN, STBD SIM BUT OPP HAND





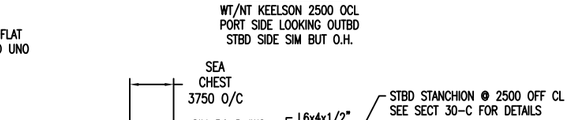
ELEVATION 51-B

GDR 6050 OFF CL
PORT SIDE SHOWN LKG OUTBD
STBD SIM BUT OPP HAND



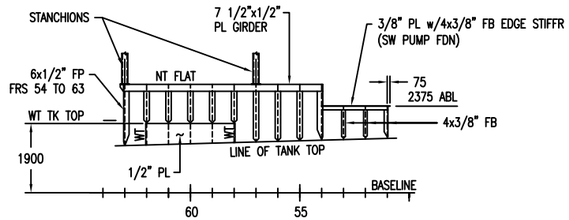
PLAN 52-A

TANK TOP 1000 ABV KEEL
@ FR 49 & FR 72
(TT HEIGHT ABV KEEL TO BE CONFIRMED WHEN
DETAILS OF PROPULSION MOTOR HOLD DOWN BECOME AVAILABLE)



ELEV 50-B

GIRDER 3125 OCL
PORT SIDE LOOKING OUTBD
STBD SIDE SIM BUT O.H.
GIRDERS @5525,4417&3750 OFF CL SIM

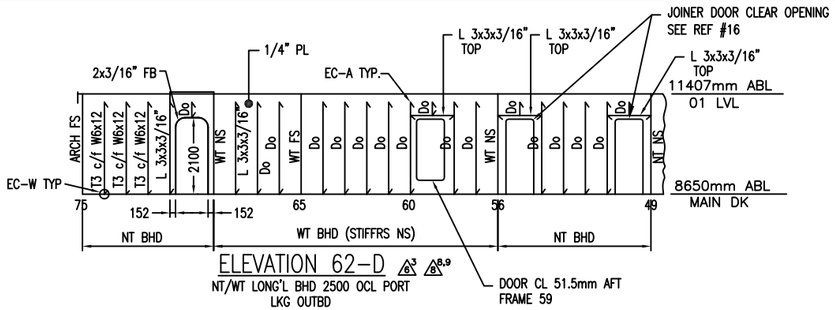


ELEV 50-A

GIRDER 1600 OCL
PORT SIDE LOOKING OUTBD
STBD SIDE SIM BUT OPP HAND

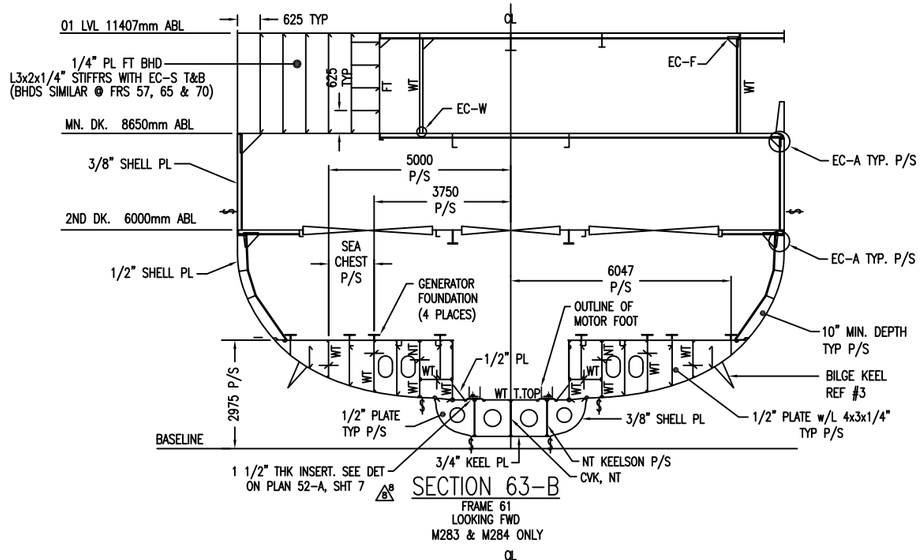
FULL SIM	CASE CODE	SIZE	JOB NO	ITEM	DEVELOPMENT	SHEET	REV
1953	3B213	D	M282	110	FH04	007	08
ESTIMATE NO	SCALE		FILE R:\M282\FUNCTIONAL DESIGN\NWORK\HULDWG\FH04-007-07.DWG			SHEET 7 OF 10	
00-104	1:80						PLOT: 1:1

DWG NO. M282-110-FH04 SH 7



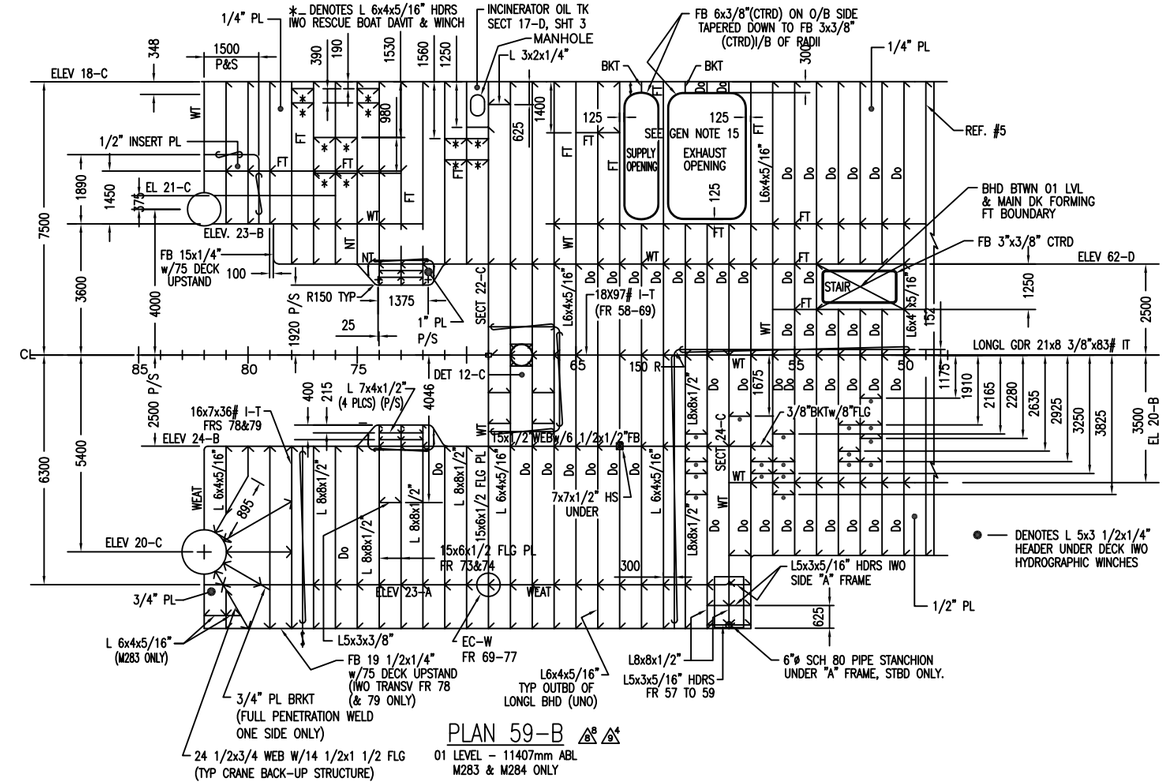
ELEVATION 62-D

NT/WT LONG'L BHD 2500 OCL PORT LKG OUTBD
M283 & M284 ONLY



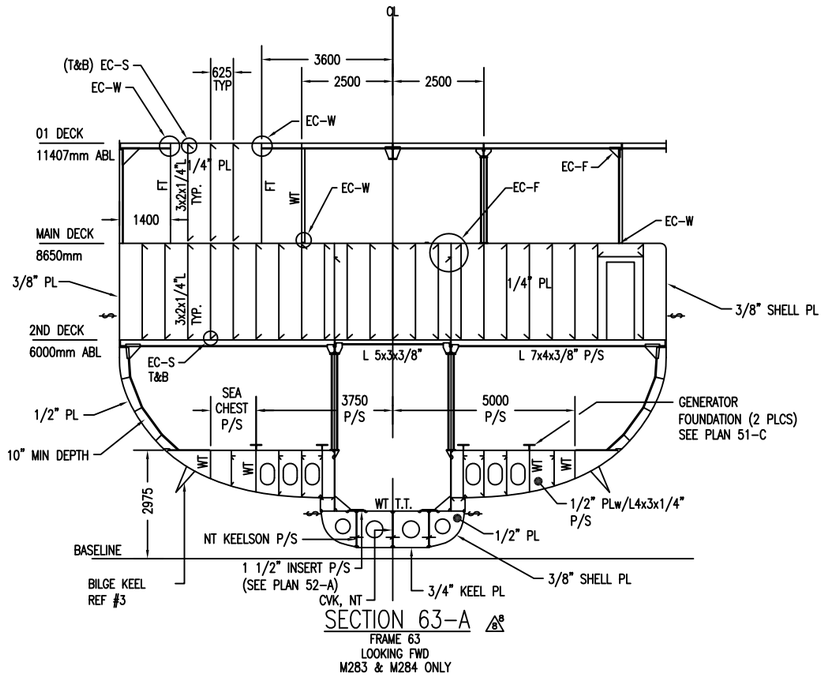
SECTION 63-B

FRAME 61
LOOKING FWD
M283 & M284 ONLY



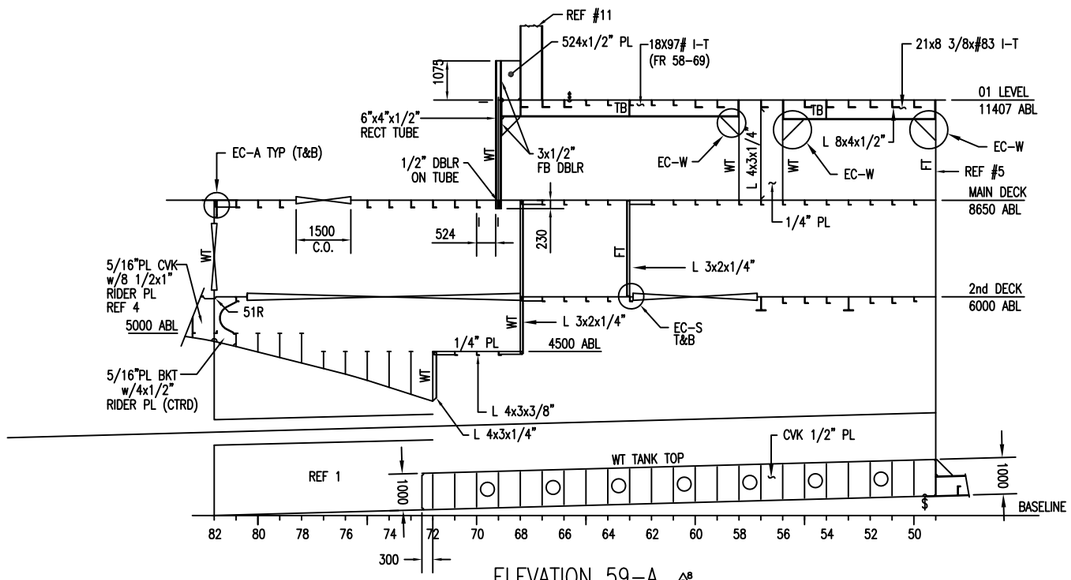
PLAN 59-B

01 LEVEL - 11407mm ABL
M283 & M284 ONLY



SECTION 63-A

FRAME 63
LOOKING FWD
M283 & M284 ONLY



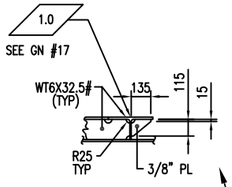
ELEVATION 59-A

CENTERLINE PROFILE
LOOKING TO PORT
M283 & M284 ONLY

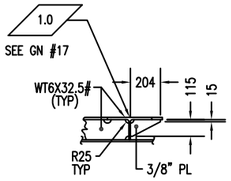
HULL NO. 1953	CAGE CODE 3B213	SIZE D	JOB NO. M282	ITEM 110	DELIVERABLE FH04	EVENT 008	REV 09
SUBSAFE NO. 00-104	SCALE 1:80		PLOT R:\M282\FUNCTIONAL DESIGN\NWORK\HULLDWG\FH04_002_03.DWG			SHEET 8 OF 10	

DWG NO. M282-110-FH04 SH 8

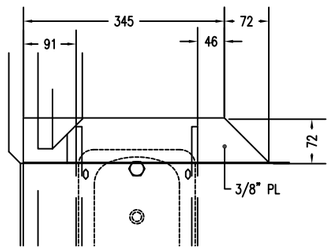
PLOT: 1:1



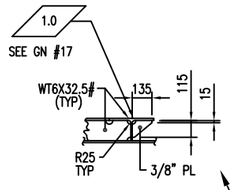
TYP 12 PLACES



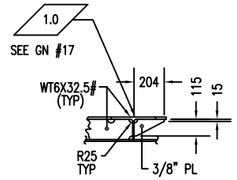
TYP 8 PLACES



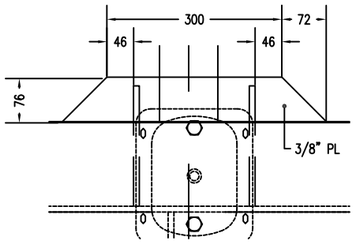
DETAIL 69-D



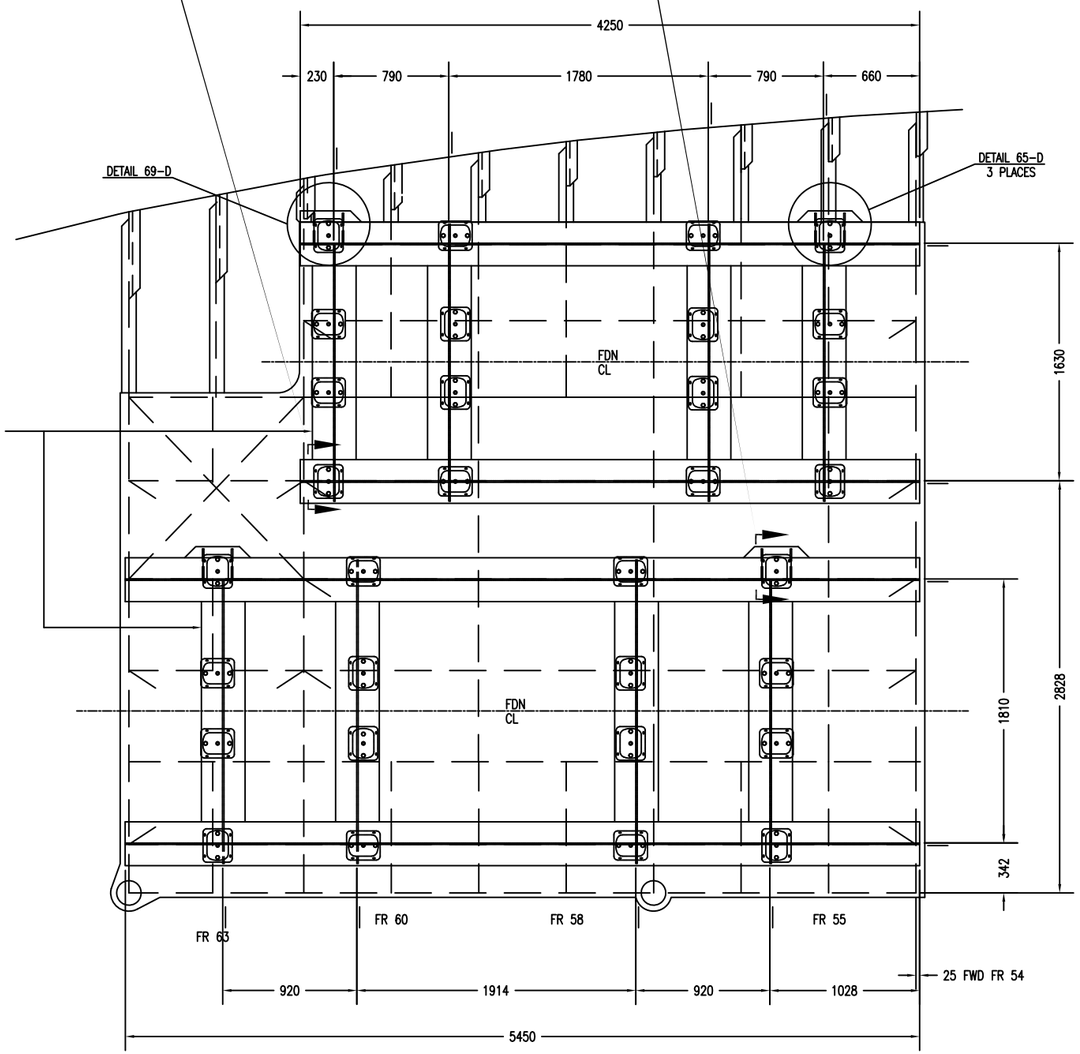
TYP 12 PLACES



TYP 8 PLACES

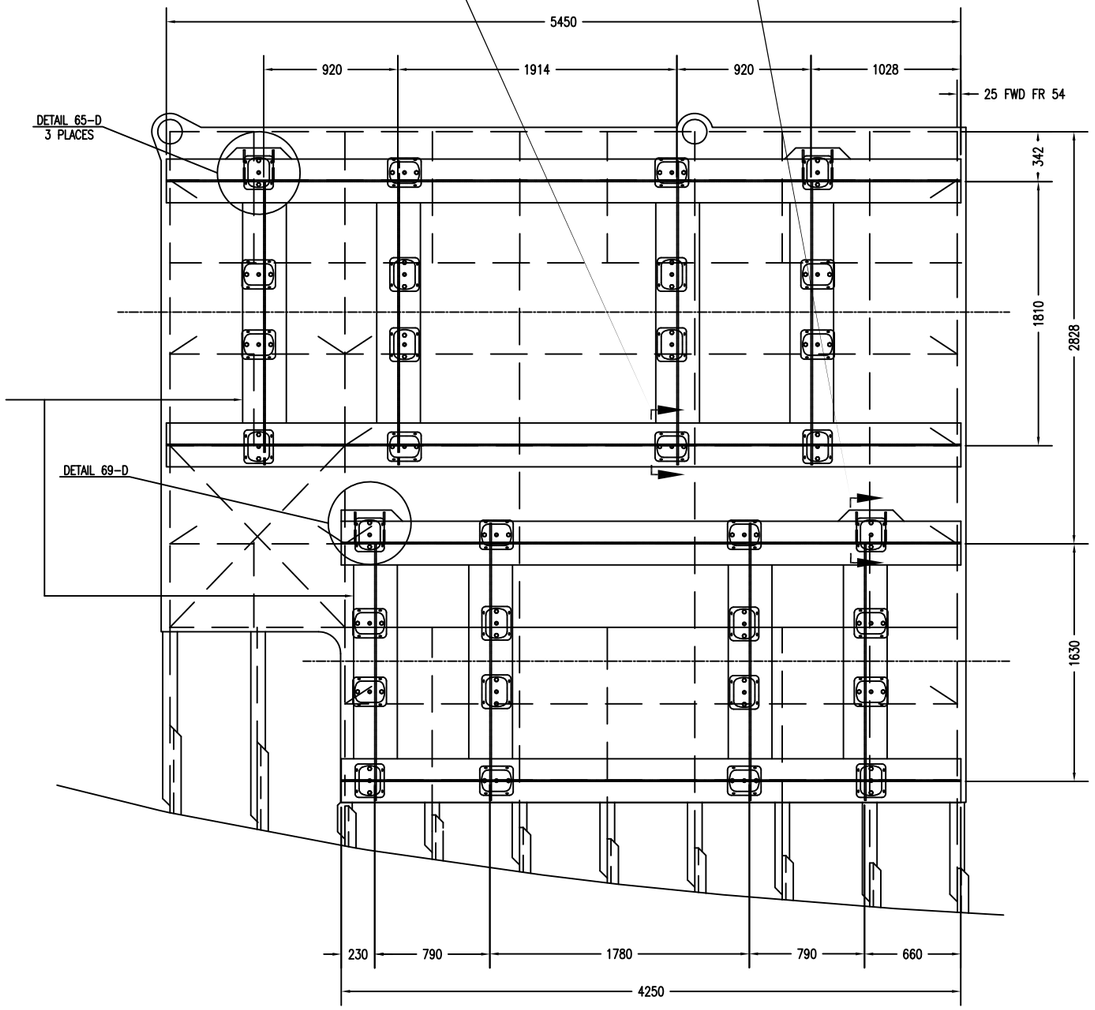


DETAIL 65-D



PLAN 70-A

GENERATOR FOUNDATION MOUNTED ON 2975 ABL FLAT
PORT SIDE SHOWN
FOR UNDERDECK STRUCTURE SEE PLAN 50-D
M283 & M284 ONLY



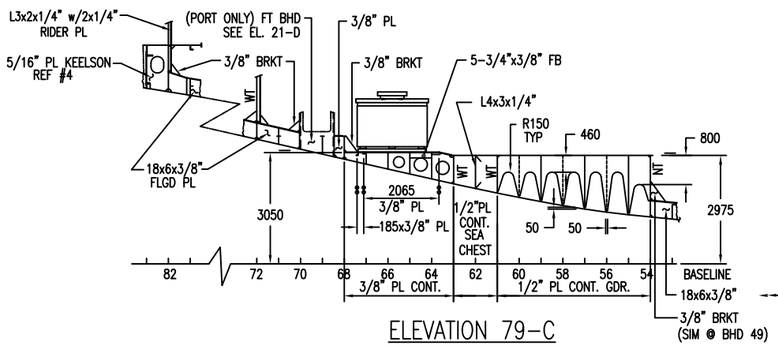
PLAN 66-A

GENERATOR FOUNDATION MOUNTED ON 2975 ABL FLAT
STBD SIDE SHOWN
M283 & M284 ONLY

△5 2

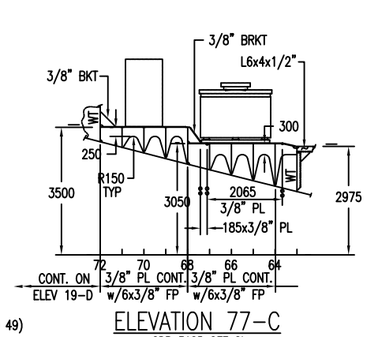
DWG NO. M282-110-FH04 SHT 9

HULL NO	CASE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
1953	3B213	D	M282	110	FH04	009	05
ESTIMATE NO	SCALE		PLOT	R:\M282\FUNCTIONAL DESIGN\DWWORK\HULLDWG\FH04-009-01.DWG		SHEET 9 OF 10	
00-104	1:80						PLOT: 1:1



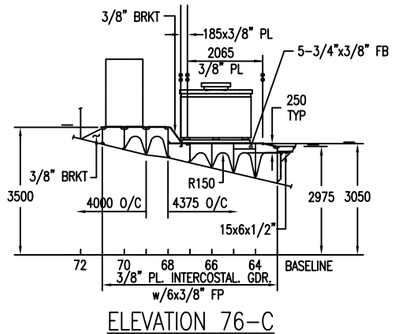
ELEVATION 79-C

GDR 5000 OFF CL
PORT SIDE SHOWN LKG OUTBD UNO
STBD SIM BUT OPP HAND



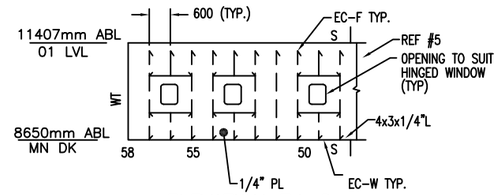
ELEVATION 77-C

GDR 3125 OFF CL
PORT SIDE SHOWN LKG OUTBD
STBD SIM BUT OPP HAND



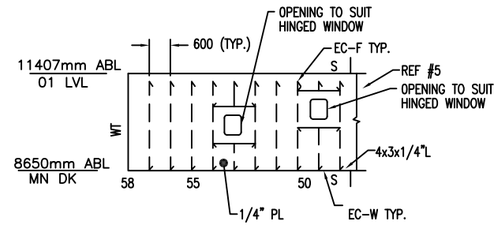
ELEVATION 76-C

GDR 4000/4375 OFF CL
PORT SIDE SHOWN LKG OUTBD
STBD SIM BUT OPP HAND



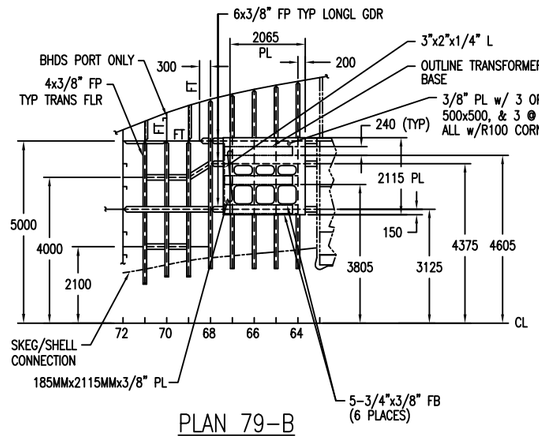
ELEVATION 74-D ⚠12

WT LONG'L BHD 3500 OCL STBD
FR. 49 TO FR. 58
LKG INBD
M283 SHOWN
FOR M282 SEE ELEVATION 20-B
FOR M284 SEE ELEVATION 74-C



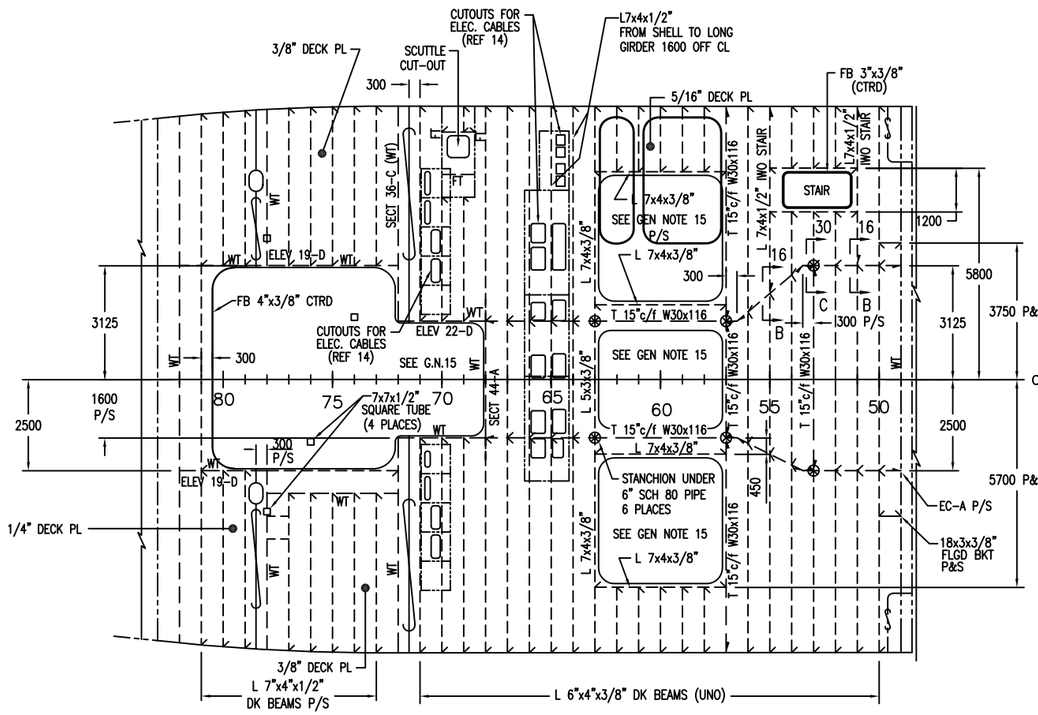
ELEVATION 74-C ⚠12

WT LONG'L BHD 3500 OCL STBD
FR. 49 TO FR. 58
LKG INBD
M284 SHOWN
FOR M282 SEE ELEVATION 20-B
FOR M283 SEE ELEVATION 74-D



PLAN 79-B

PLAN OF FLOOR & GDR FP's
PORT SHOWN, STBD SIM BUT O.H. UNO



PLAN 76-A

2ND DECK - 6000mm ABL
ELECTRICAL CABLE DECK PENETRATIONS
TO BE DETERMINED DURING EQUIPMENT INSTALLATION
M283/M284 ONLY, FOR M282 SEE SHT 2

⚠1

DWG NO. M282-110-FH04 SH 10

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
1953	3B213	D	M282	110	FH04	010	08
ESTIMATE NO	SCALE		PLOT R:\M282\FUNCTIONAL DESIGN\DWWORK\HULLDWG\FH04-010-08.DWG			SHEET 10 OF 10	
00-104	1:80						PLOT: 1:1